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МЕДИЦИНСКИЙ ЦЕНТР ОНКОЛОГИИ И РАДИОЛОГИИ

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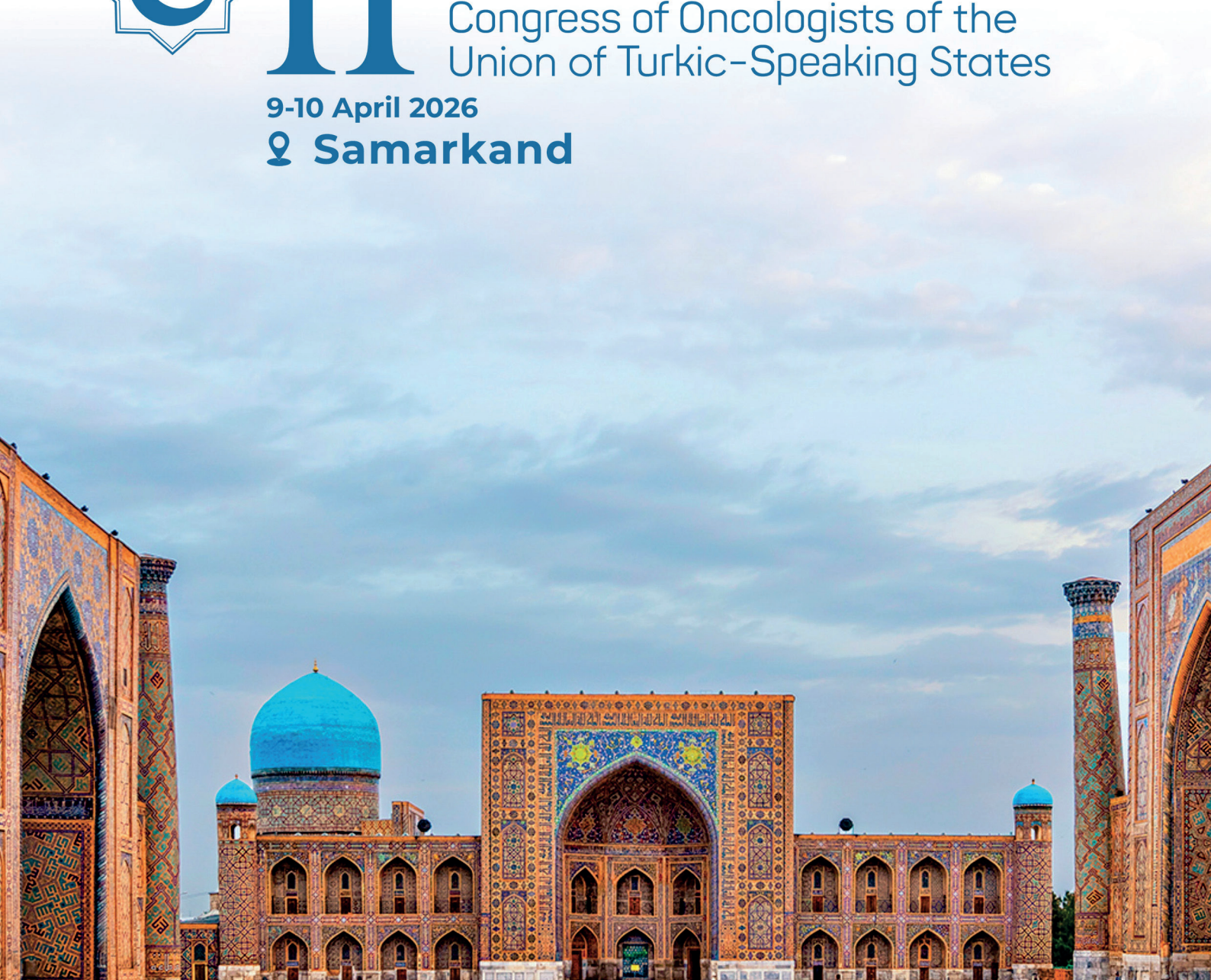
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ОБЩАЯ ОНКОЛОГИЯ

Эпидемиология и организационные вопросы скрининга злокачественных новообразований

Epidemiological analysis of incidence and mortality trends of malignant bone tumors in Uzbekistan

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Aim: To analyze the dynamics of incidence and mortality rates of malignant bone tumors in Uzbekistan.

Materials and Methods: A retrospective descriptive study was conducted using national cancer registry data (State Accounting Form No. 7: «Information on Malignant Neoplasms») provided by oncological institutions under the Ministry of Health of the Republic of Uzbekistan. Population data from the State Committee of Statistics were used to calculate crude rates per 100,000 population across regions.

Results: Between 2016 and 2024, a total of 3,116 new cases and 2,141 deaths due to bone MN were recorded, accounting for 1.5% of total cancer incidence and 1.7% of total cancer mortality in the country. By 2024, bone tumors ranked 22nd in the overall structure of oncological incidence and 20th in mortality. A general downward trend in both incidence and mortality was observed over the study period. Men were consistently more affected than women; in 2024, the incidence rate was 1.1 per 100,000 for men compared to 0.7 for women. Age-specific analysis revealed a significant burden in the young adult population (20–44 years), which accounted for approximately 30% of cases in both sexes. Notably, diagnostic efficiency improved significantly: the proportion of patients diagnosed at Stages I–II increased from 53.1% in 2016 to 67.1% in 2024, while Stage III diagnoses decreased from 36.2% to 19.1%. As of the end of 2024, 2,891 patients remained on the clinical registry, with an accumulation index of 8.9.

Conclusion: Malignant bone tumors in Uzbekistan exhibit a trend toward decreasing mortality and improving early detection rates. However, the high prevalence among the reproductive and economically active population (20–44 years) remains a concern. The shift toward earlier stage distribution suggests improvements in the national diagnostic infrastructure, though the continued presence of unstaged cases (averaging 4.1%) indicates a need for further optimization of clinical reporting.

Strengthening cancer diagnostic services in Uzbekistan (2026–2035): gaps and priority actions under the National Cancer Control Plan

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Objective: To identify major gaps in cancer diagnostic services in Uzbekistan and define priority actions under the National Cancer Control Plan (NCCP) 2026–2035 to improve timely, equitable, and quality-assured diagnosis.
Materials and methods: The analysis was based on the National Cancer Control Strategy 2026– 2035 and the NCCP Action Plan, with focus on imaging, pathology/laboratory services, digital integration, and diagnostic workforce.

Results: The assessment showed that cancer diagnostic capacity in Uzbekistan has improved, but major regional disparities remain. Access to imaging is uneven: 10 of 15 oncology centers and branches operate multislice computed tomography (CT), while 5 still lack CT; magnetic resonance imaging (MRI) is available in only 6 branches. Nuclear medicine is also limited: although 4 positron emission tomography-computed tomography (PET-CT) units exist nationally, they are concentrated in Tashkent, and public-sector access remains insufficient for a population of about 38 million. In pathology, frozen section is available only at the Republican Oncology Center, and digital systems such as picture archiving and communication systems (PACS) and laboratory information systems (LIS) remain underdeveloped. These gaps delay staging, referral, multidisciplinary tumor board decisions, and treatment initiation. To address them, the NCCP proposes phased expansion of CT/magnetic resonance imaging coverage in all regions by 2028, PET-CT development in at least 3 regional centers by 2030, modernization of histopathology laboratories, centralized immunohistochemistry procurement and quality control, creation of 4 regional reference pathology laboratories, and gradual deployment of PACS/LIS and digital pathology. Workforce measures include expanded residency positions, fellowships, and continuing medical education linked to quality standards.

Conclusion: Uzbekistan has made measurable progress in cancer diagnostics, but access, quality, and workforce gaps still limit timely diagnosis. The NCCP provides a phased roadmap to improve diagnostic equity, standardization, and quality nationwide.

Strengthening cancer treatment services in Uzbekistan (2026–2035): gaps and priority actions under the National Cancer Control Plan

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Objective: To assess key limitations in cancer treatment delivery in Uzbekistan and define priority actions under the National Cancer Control Plan (NCCP) 2026–2035 for improving equitable access, treatment quality, and oncology workforce capacity.
Materials and methods: The analysis was based on the National Cancer Control Strategy 2026– 2035 and the NCCP Action Plan, with focus on surgery, systemic therapy, radiotherapy, treatment infrastructure, medicines access, and human resources.

Results: The analysis showed that cancer treatment services in Uzbekistan are expanding, but development remains uneven across regions. The main limitations include insufficient specialization in oncologic surgery outside the national center, unstable access to systemic therapy caused by procurement and infrastructure constraints, and inadequate radiotherapy capacity. At present, specialized oncologic procedures account for over 70% of operations at the national center compared with about 50% in peripheral facilities. The public procurement list includes 31 oncology-related medicines, but access to some modern targeted and immunotherapy agents remains limited. Radiotherapy coverage also remains insufficient: national need is estimated at 36–48 teletherapy units, whereas only 21 units are currently installed or operational, and only 2 active linear accelerators are available. In response, the NCCP proposes phased reforms, including modernization of surgical and radiotherapy infrastructure, improvement of medicines forecasting and procurement, expansion of safe compounding capacity, and strengthening of workforce training through short-term fellowships and new competency-based 4–5-year oncology residency programs.

Conclusion: Cancer treatment in Uzbekistan is undergoing active modernization, yet important disparities in capacity and quality persist. Implementation of phased NCCP reforms may improve service readiness, reduce regional inequities, and support delivery of more consistent and high- quality cancer care nationwide.

Hududiy onkologik xizmatni rivojlantirishda zamonaviy diagnostika va davolash texnologiyalarini joriy etishning ahamiyati

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Toshkent Davlat tibbiyot universiteti,

Tadqiqot maqsadi: 2025-yilda mutaxassislarning hududlarga chiqish faoliyati doirasida O‘zbekiston hududlarida joriy etilgan yangi onkologik tashxis va davolash usullarining ko‘lamini hamda o‘tkazilgan o‘quv-ma’rifiy tadbirlar samaradorligini baholash. Tadqiqot natijalari. 2025-yil davomida respublika hududlarida mutaxassislarning sayyor faoliyati doirasida 22 ta yangi diagnostik usul hamda 21 ta yangi davolash usuli amaliyotga joriy etildi. Ushbu usullar zamonaviy tasvirlash diagnostikasi, erta sitologik va gistologik tekshiruv texnologiyalari, yuqori texnologik jarrohlik aralashuvlari, minimal invaziv muolajalar hamda kompleks dori vositalari asosidagi davolash protokollarini o‘z ichiga oldi. Yangi usullar viloyat va tuman darajasidagi tibbiyot muassasalarida joriy etilib, hududiy tibbiyot xizmatining diagnostik va davolash imkoniyatlarini sezilarli darajada kengaytirdi. Hududlarda amalga oshirilgan sayyor faoliyat davomida 134 ta mahorat darsi va 87 ta ilmiy-amaliy seminar tashkil etildi. Ushbu o‘quv tadbirlarida jarrohlik onkologiyasi, kompyuter tomografiya va magnit-rezonans tomografiya natijalarini talqin qilish, onkoginekologiyada ultratovush diagnostikasi, onkomarkerlar bilan ishlash hamda bemorlarni to‘g‘ri yo‘naltirish algoritmlari bo‘yicha amaliy mashg‘ulotlar o‘tkazildi. Mahalliy kadrlar salohiyatini oshirishga alohida e’tibor qaratildi. Natijada hududiy tibbiyot muassasalarida 331 nafar mutaxassis (onkologlar, radiologlar, patomorfologlar, jarrohlar, ginekologlar va boshqa tor ixtisoslikdagi shifokorlar) bevosita amaliy ko‘nikmalarni egallagan holda malakasini oshirdi. O‘tkazilgan seminar va o‘quv mashg‘ulotlarida esa jami 2542 nafar tibbiyot xodimlari ishtirok etdi. Bundan tashqari, hududiy tibbiyot muassasalarida zamonaviy diagnostik va davolash texnologiyalarini joriy etish bilan bir qatorda amaliy jarrohlik faoliyati ham amalga oshirildi. Sayyor tashriflar doirasida 66 ta turli amaliyotlar bajarildi, shundan 48 tasi yuqori texnologik operatsiyalar va 6 tasi yuqori texnologik muolajalarni tashkil etdi. Ushbu ko‘rsatkichlar hududiy tibbiyot muassasalarida ilg‘or texnologiyalarni amaliyotga tatbiq etish orqali ixtisoslashtirilgan

yordam sifati oshib borayotganini ko‘rsatadi.
Xulosa. 2025-yilda hududlarda zamonaviy diagnostika va davolash usullarini tizimli ravishda joriy etish hamda mahalliy mutaxassislar malakasini oshirish respublika onkologik xizmatining hududiy salohiyatini sezilarli darajada mustahkamladi. Mazkur faoliyat hududiy tibbiyot muassasalarida ilg‘or texnologiyalarni keng joriy etish, onkologik kasalliklarni erta aniqlash imkoniyatlarini oshirish hamda ixtisoslashtirilgan tibbiy yordam sifatini mamlakat miqyosida yanada yaxshilashga xizmat qiladi.

O‘zbekiston hududlarida onkologik yordamni mutaxassislarning sayyor faoliyati orqali kuchaytirish

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Toshkent Davlat tibbiyot universiteti, Toshkent shahri Tadqiqot maqsadi: 2025-yilda O‘zbekiston hududlarida amalga oshirilgan sayyor onkologik yordam faoliyatining samaradorligini hamda bajarilgan tadbirlar hajmini tahlil qilish.

Materiallar va usullar. Tadqiqot uchun 2025-yil davomida respublika hududlariga amalga oshirilgan xizmat safarlari bo‘yicha rasmiy hisobot ma’lumotlari tahlil qilindi. Tahlil jarayonida hududlarga chiqishlar soni, jalb qilingan mutaxassislar soni, tibbiy ko‘rikdan o‘tkazilgan aholi soni, aniqlangan bemorlar soni, davolash bo‘yicha tavsiyalar, shuningdek hududlarda o‘tkazilgan ilmiy-amaliy tadbirlar hamda yangi diagnostik va davolash usullarini joriy etish ko‘rsatkichlari o‘rganildi.

Natijalar. 2025-yil davomida O‘zbekiston Respublikasi hududlarida Respublika ixtisoslashtirilgan onkologiya va radiologiya ilmiy-amaliy tibbiyot markazi mutaxassislari tomonidan 118 marotaba sayyor chiqishlar amalga oshirildi. Ushbu tashriflarda 123 nafar yetakchi mutaxassis, jumladan onkologlar, jarrohlar, radiologlar hamda boshqa tor ixtisoslikdagi shifokorlar ishtirok etdi. Sayyor tashriflar davomida jami 4770 nafar aholi tibbiy ko‘rikdan o‘tkazildi, shundan 200 nafari 18 yoshgacha bo‘lgan bolalarni tashkil etdi. O‘tkazilgan tekshiruvlar natijasida 424 nafar bemorda onkologik kasalliklar aniqlanib, ularga individual davolash tavsiyalari berildi. Jumladan, 2652 nafar bemorga ambulator davolash, 2021 nafar bemorga statsionar davolash tavsiya etildi. Ushbu ko‘rsatkichlar hududlarda olib borilgan skrining va konsultativ tekshiruvlarning yuqori klinik samaradorligini ko‘rsatadi. Sayyor tashriflar davomida hududiy tibbiyot muassasalarida keng ko‘lamli ilmiy-amaliy va o‘quv tadbirlari ham tashkil etildi. Jumladan, 134 ta mahorat darsi va 87 ta ilmiy-amaliy seminar o‘tkazildi. Ushbu tadbirlarda onkologik kasalliklarni erta aniqlash, bemorlarni to‘g‘ri yo‘naltirish, zamonaviy davolash protokollari hamda murakkab klinik holatlarda bemorlarni boshqarish masalalari muhokama qilindi. Amaliy tibbiy yordam doirasida hududlarda 66 ta jarrohlik va diagnostik amaliyotlar bajarildi, shundan 48 tasi yuqori texnologik operatsiyalar, 6 tasi yuqori texnologik muolajalarni tashkil etdi. Bundan tashqari, hududiy tibbiyot muassasalarida 22 ta yangi diagnostik va 21 ta yangi davolash usuli joriy etildi. Sayyor faoliyat davomida 331 nafar mahalliy mutaxassis malaka oshirdi, o‘quv tadbirlarida esa 2542 nafar tibbiyot xodimi ishtirok etdi. Eng yuqori ko‘rik qamrovi Qoraqalpog‘iston Respublikasi, Xorazm, Qashqadaryo, Farg‘ona, Samarqand va Andijon viloyatlarida qayd etildi.

Xulosa. Sayyor onkologik xizmat hududlarda kasalliklarni erta aniqlash, ixtisoslashtirilgan tibbiy yordamga kirishni kengaytirish hamda mahalliy mutaxassislar malakasini oshirishda yuqori samaradorlik ko‘rsatdi. Ushbu yondashuv hududiy onkologik xizmatni rivojlantirish va milliy diagnostika hamda davolash standartlarini joriy etishda muhim ahamiyatga ega.

Epidemiological Analysis and Screening Challenges of Colorectal Cancer in Uzbekistan

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Background: Colorectal cancer (CRC) ranks third in incidence and second in cancer-related mortality worldwide. It represents a growing health burden globally, including in developing and low-to-middle-income countries like Uzbekistan. In these regions, most CRC cases are diagnosed at advanced stages, often resulting in lower treatment effectiveness and higher mortality rates. In high-income countries, organized population-based screening programs have proven effective in detecting CRC at earlier stages, thereby improving prognosis and reducing mortality. Unfortunately, in Uzbekistan, such systematic screening programs are still lacking, and public awareness of early cancer symptoms remains low. The existing healthcare infrastructure also poses certain limitations in terms of early detection and follow-up care.
Aim: To analyze current epidemiological trends of colorectal cancer in Uzbekistan and to identify the key challenges and barriers to the implementation of an effective CRC screening program.

Materials and Methods: A retrospective epidemiological analysis was conducted using National Oncology Registry data from 2015 to 2024. For 2025–2026, indicators were calculated using trend-based extrapolation (average annual growth rate method). Parameters analyzed included incidence rates, age and gender distribution, stage at diagnosis, and access to screening and diagnostic services.

Results: Between 2015 and 2024, CRC incidence in Uzbekistan increased from 9.3 to 13.7 per 100,000 population, corresponding to a 47.3% overall increase. The calculated average annual growth rate was approximately 4.4%. Based on this: 2025: 14.3 per 100,000 2026: 14.9 per 100,000 Thus, from 2015 to 2026, the total increase is projected to reach approximately 60%. Stage distribution remains unfavorable: 67–70% of patients are diagnosed at stages III–IV. Patients aged 55 years and older account for 62–66% of all cases. Screening coverage remains low, estimated at 18–22% of the target population. Access to colonoscopy and other endoscopic diagnostics is limited, particularly in rural areas, where late-stage detection exceeds 70–72%. Key contributing factors include delayed healthcare-seeking behavior, low awareness of early symptoms, and недостаточная подготовка первичного звена здравоохранения. Pilot screening programs cover less than 25% of the eligible population and lack systematic follow-up.

Conclusion: By 2026, colorectal cancer incidence in Uzbekistan is expected to reach approximately 14.9 per 100,000 population, reflecting a steady upward trend with a total increase of about 60% since 2015. Persistently high rates of late-stage diagnosis highlight critical gaps in early detection. Implementation of a nationwide screening program, expansion of diagnostic capacity, and повышение онконастороженности among both the population and primary care providers are essential to reduce CRC burden.

Study and Analysis of Colorectal Cancer Incidence Rates in 2022–2026 Based on GLOBOCAN Data

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Introduction: Colorectal cancer (CRC) remains one of the most common and socially significant types of malignant neoplasms worldwide, particularly in countries with developing healthcare systems. According to the International Agency for Research on Cancer (IARC), CRC ranks third in terms of incidence and second in cancer-related mortality globally. Given global population aging, lifestyle changes, and growing exposure to risk factors, epidemiological monitoring and evaluation of incidence trends are becoming increasingly important.

Objective: To assess the level and trends of colorectal cancer incidence from 2022 to 2026 based on global epidemiological data from the GLOBOCAN database.

Materials and Methods: The study utilized GLOBOCAN data for 2022 and projected estimates for 2024–2026. A retrospective descriptive and trend analysis was conducted. Key indicators included the number of new cases (absolute and per 100,000 population), gender distribution, age-specific incidence, anatomical localization (colon vs rectum), and regional variations. Growth rates were calculated using trend extrapolation methods.

Results: According to GLOBOCAN 2022, the global number of newly diagnosed CRC cases reached approximately 2.0 million. Based on current epidemiological trends, this number is expected to increase to 2.2 million in 2024, 2.3 million in 2025, and approximately 2.4–2.45 million cases by 2026. This reflects an overall increase of approximately 20–22% between 2022 and 2026, with an average annual growth rate of about 4.5–5.0%.The highest incidence rates remain in high-income countries such as the United States, Japan, Germany, and Australia; however, a notable and steady increase is observed in middle-income regions, including Central Asia.Gender distribution shows that men are affected more frequently than women, with a ratio of approximately 1.3–1.5:1. Age-specific analysis indicates that the peak incidence occurs in individuals aged 60–74 years, accounting for more than 50% of all newly diagnosed cases.Regarding tumor localization, cancers of the sigmoid colon and rectum remain the most prevalent forms. In countries with limited or absent screening programs, more than 60–65% of CRC cases are diagnosed at advanced stages (III–IV), which significantly reduces survival rates.

Conclusion: Between 2022 and 2026, colorectal cancer incidence demonstrates a steady global increase, reaching approximately 2.4 million new cases annually. The upward trend is particularly pronounced in low- and middle-income countries, where screening programs are недостаточно развиты. Strengthening preventive strategies, expanding population-based screening, and improving early diagnostic capabilities are essential measures to reduce the growing burden of colorectal cancer worldwide.

Kaposi sarcoma in Uzbekistan (2016–2024): national cancer registry trends and regional disparities

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Background: Kaposi sarcoma (KS) is an infrequent cancer type with significant variations in geographic and demographic distribution across the globe. For monitoring and planning health equity, national baseline information with subnational specifics is crucial.

Objective: To describe national incidence, temporal patterns, and regional, sex-, age-, and residence-based disparities in KS in Uzbekistan from 2016 to 2024.

Methods: Records from national cancer registries for KS (ICD-10: C46) from 2016 to 2024 were analyzed retrospectively and through a population-based approach. The annual crude and age- standardized incidence rates (ASR, per 100,000) were calculated through direct standardization to the WHO world standard population. For each region, standardized rate ratios (SRR) were calculated with respect to the national ASR. For temporal trends, annual percent change (APC) from log-linear models was used. Rate ratios were used to summarize comparisons by sex and urban–rural residence.

Main Results: From 2016 to 2024, Uzbekistan reported 351 cases of KS. National age-standardized incidence (WHO standard) remained low, although there was some irregular variation with peaks in 2019 and 2022. There was no monotonic national trend in incidence. There was a pronounced geographic heterogeneity with incidence highest in Bukhara and Karakalpakstan, and there were significant regional trend signals, with increasing incidence in the Tashkent region and Bukhara, and decreasing incidence in Karakalpakstan, Jizzakh, and Surkhandarya. The majority of cases were male (approximately three-quarters of cases annually), and were concentrated in the age group of ≥40, with a peak in the age group of 70 to 79.

Conclusion: Kaposi sarcoma has maintained low incidence rates in Uzbekistan between 2016 and 2024, yet there is pronounced regional heterogeneity, and a persistent excess burden among males, older adults (≥40; peak 70-79), and rural residents. The noted patterns merit regionally stratified surveillance and focused public health intervention planning in areas with higher burden.

Age and gender characteristics of metastasis in malignant tumors: a clinical analysis

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Background. Metastasis is a critical factor determining the progression and prognosis of malignant tumors. Patterns of tumor spread vary depending on tumor biology, patient age, and gender, necessitating a differentiated clinical approach for accurate diagnosis and management.

Objective. To evaluate the frequency, pathways and localization of metastases in the most common malignant tumors.

Materials and Methods. A retrospective analysis was conducted on 337 women, 201 men and 38 children. Bone metastases were assessed using scintigraphy and SPECT/CT. Data were analyzed to identify age- and gender-specific patterns of dissemination.

Results. Among women, breast cancer exhibited the highest metastatic activity with a

predominant spread to the spine and pelvic bones. This pattern is linked to vertebral venous plexus involvement and a prolonged asymptomatic course. Uterine cancer rarely resulted in distant bone metastases due to local tumor growth and early clinical detection. Lung cancer showed intermediate bone involvement. In men, prostate cancer had the highest tendency for bone metastasis, primarily affecting the spine and pelvis, reflecting tumor cell affinity for bone and late-stage diagnosis. Lung cancer displayed moderate bone metastatic activity, mainly involving the spine and ribs, corresponding to hematogenous dissemination. Gastrointestinal tumors commonly metastasized to the liver and lungs, with skeletal involvement occurring rarely and usually at advanced stages. In children, embryonal tumors, sarcomas, and lymphomas predominated, characterized by high proliferative activity and early systemic spread. Neuroblastomas frequently involved bones and bone marrow, while lymphomas were systemic at presentation. Sarcomas, including osteosarcoma, Ewing sarcoma, and rhabdomyosarcoma, demonstrated aggressive behavior with early hematogenous and lymphogenous dissemination. A notable case included prostatic rhabdomyosarcoma with sacral metastasis in a 5-year-old child.

Conclusion. Metastatic patterns are influenced by tumor biology, dissemination pathways, and age- and gender-related factors. Recognition of these characteristics is essential for early detection, accurate staging, and optimization of patient management strategies.

Epidemiological characteristics and preventive detection of gastrointestinal malignancies in the fergana region in 2025

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Objective. To evaluate the epidemiological profile and effectiveness of preventive examinations in detecting gastrointestinal malignancies in the Fergana region in 2025.

Materials And Methods. A retrospective analysis of the regional oncological registry data for 2025 was conducted. Malignant neoplasms of the gastrointestinal tract (ICD-10: C15–C21) were included. Indicators analyzed comprised total registered cases and the proportion of tumors detected during preventive examinations.

Results. In 2025, gastrointestinal malignancies accounted for a substantial proportion of newly registered cancer cases in the Fergana region. A total of 277 cases of esophageal cancer, 557 gastric cancers, 65 small intestine cancers, 378 colon cancers, 169 rectosigmoid cancers, 349 rectal cancers, and 28 anal cancers were recorded. Preventive examinations detected 11 cases (12.6%) of esophageal cancer, 36 cases (17.0%) of gastric cancer, 1 case (5.9%) of small intestine cancer, 3 cases (2.9%) of colon cancer, 5 cases (13.1%) of rectosigmoid cancer, and 22 cases (21.6%) of rectal cancer. No cases of anal cancer were identified during preventive screenings. Rectal cancer demonstrated the highest rate of detection through preventive examinations (21.6%), while colon and small intestine cancers showed markedly low screening detection rates.

Conclusion. Preventive examinations in the Fergana region demonstrate variable effectiveness in detecting gastrointestinal malignancies. While rectal and gastric cancers show relatively higher detection rates during screening, colon and small intestine cancers remain underdiagnosed through preventive programs. Strengthening targeted screening strategies and improving early diagnostic approaches for colorectal malignancies are essential to enhance early detection and improve patient outcomes.

Innovative and integrated cancer prevention strategies within the national cancer control programme of Uzbekistan (2026–2035)

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Background. Cancer is a growing public health challenge in the Republic of Uzbekistan. According to GLOBOCAN, more than 35,000 new cases and over 20,000 cancer-related deaths occur annually. Lung, breast, stomach, cervical, and colorectal cancers account for the highest burden. A large proportion is linked to modifiable risk factors, including tobacco use, oncogenic infections (HPV, HBV, Helicobacter pylori), and unhealthy lifestyles.

Methods. The prevention component of the National Cancer Control Programme (NCCP) for 2026–2035 was developed based on national epidemiological data, STEPS survey findings, and WHO recommendations. A multi-sectoral, evidence-based approach was used to define priority interventions. The lead author contributed to the development of the prevention framework and implementation strategies.

Results. The NCCP targets a 5% reduction in the incidence of major preventable cancers by 2035. Key interventions include strengthening tobacco control; introducing a national advocacy platform ("Uzbekistan Against Lung Cancer Day"); expanding HPV vaccination and improving HBV birth-dose coverage; integrating Helicobacter pylori screening and treatment into primary healthcare; implementing a national cancer risk assessment tool with a digital platform ("My Risk – My Plan"); and establishing a nationwide network of cancer prevention ambassadors.

Conclusion. The NCCP introduces an integrated and innovative approach to cancer prevention, combining policy, health system strengthening, and community engagement. Its implementation is expected to reduce risk factor exposure and support sustainable reductions in cancer burden.

Основные показатели заболеваемости первично-множественными злокачественными опухолями женской репродуктивной системы

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Цель. Провести анализ основных показателей первично-множественных злокачественных опухолей женской репродуктивной системы в Джизакском филиале РСНПМЦОиР.

Материалы и методы исследования. Проведен анализ историй болезни 90 (100%) пациенток с первично-множественными злокачественными опухолями (ПМЗО) женской репродуктивной системы в Джизакском филиале РСНПМЦОиР. У всех больных отмечено поражение молочной железы синхронно или метахронно с вовлечением органов женской репродуктивной системы, такими как шейка матки, тело матки и яичники. Возраст больных колебался от 45 до 72 лет. Средний возраст больных составил 56 лет. При выявлении первичной опухоли пациентки были в возрасте от 42 до 60 лет.

Результаты исследования. Синхронное поражение молочной железы и других органов репродуктивной системы отмечено у 22 (24%) больных, метахронное 38(42%). Гистологическое исследование опухолей молочной железы показало, что из 90 больных у 43 (48%) больных опухоль была представлена инфильтративным протоковым раком и

у 17 (19%) больных инфильтративным дольковым раком. Поражение органов гениталий распределено следующим образом: РМЖ+РШМ у 18 (20%) больных, РМЖ+РТМ у 33 (37%) и РМЖ+РЯ у 39 (43%) больных. Следует отметить, что среди органов гениталий отмечается частое поражение молочной железы и яичников. Распространённость опухолей по системеTNM рак молочной железыT2-4N0-1M0, рак шейки матки T1-3N0-1M0, рак тела матки T1-3N0-1M0-1 и рак яичников T1-3N0-1M0-1. Все больные получили комбинированное и/или комплексное лечение. Больные наблюдались в течении 5 лет, за период наблюдения из 90 больных у 54(60%) выявлен локо-регионарный рецидив, у 8(9%) отмечалась генерализация процесса. Отдаленные метастазы наблюдались чаще в легких, костях скелета и печени. У 28(31%) больных рецидивов и метастазов опухоли не выявлено.

Выводы. Таким образом, в изученных годах наблюдалась тенденция к росту количества случаев больных с ПМЗО органов женской репродуктивной системы, при этом РМЖ чаще всего сочетался с РЯ, причем заболевание выявлялось у лиц молодого возраста и имело место наследственная отягощенность.

Совершенствование популяционного канцер-регистра в Республике Узбекистан: достигнутый прогресс

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Цель. Оценить последние достижения в развитии системы регистрации онкологических заболеваний в Узбекистане.

Материалы и методы. Исследование было описательного характера с использованием официальных отчетов и документов Министерства здравоохранения, Национального ракового регистра. В исследовании проведен анализ организации сбора данных и внедрения программного обеспечения ракового регистра. Регистрация онкологических заболеваний в Узбекистане координируется Министерством Здравоохранения и отделом ракового регистра Республиканского специализированного научно-практического медицинского центра онкологии и радиологии (РСНПМЦОиР), который функционирует как Национальный онкологический регистр. Данные об онкологических больных собираются из 15 региональных офисов канцер регистра, при этом за регистрацию раковых заболеваний на национальном и региональном уровнях отвечают специально обученные регистраторы.

Результаты. В Узбекистане система сбора данных о раковых заболеваниях является пассивной и основана на обязательном предоставлении клинических и патологических данных из больниц с использованием официальных форм уведомлений. В октябре 2025 года группой национального ракового регистра и Министерством здравоохранения был создан Приказ о регистрации рака в Узбекистане, где представлена информация о структуре, функциях, задачах и переменных по регистрации рака. В начале 2025 года IT компанией совместно с коллегами из РСНПМЦОиР и МАИР было разработано специальное программное обеспечение канцер регистр согласно международным требованиям. Система канцер регистр имеет автоматическую связь с Государственной системой персонализации и системой смертности, что в свою очередь позволило автоматически связывать данные из различных баз данных. Топография и морфология диагнозов кодируется с использованием МКБ-О. Стадирование диагнозов производится

с использованием классификации AJCC/UICC. В настоящее время в программном обеспечении имеется функционал для консолидации данных и отчетности. Более того коллегами из РСНПМЦОиР, МАИР/ВОЗ было проведено 4 обучающих курса по регистрации рака. В начале 2026 года при поддержке МАИР/ВОЗ был разработан первый стандартный операционный протокол (СОП) по регистрации онкологических заболеваний в Узбекистане.

Выводы. Узбекистан достиг значительного прогресса в развитии национального канцер-регистра благодаря принятию нормативно-правовых инициатив, внедрению специализированного программного обеспечения, улучшению интеграции данных и реализации структурированных программ обучения. Эти меры свидетельствуют о переходе к стандартизированной и координированной системе регистрации

ДИАГНОСТИКА ЗЛОКАЧЕСТВЕННЫХ НОВООБРАЗОВАНИЙ

Diagnosis and treatment outcomes of malignant soft tissue tumors of the trunk

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Aim: To study the clinical features, evaluate the effectiveness of modern diagnostic and treatment methods , and determine prognostic survival factors in patients with soft tissue sarcomas of the trunk.

Materials and Methods: The study included 226 patients (107 males and 119 females). The mean age was 38.8 years. The most common tumor locations were the chest wall (42.3%) and the anterior abdominal wall (32.5%). The diagnostic algorithm included radiography, ultrasonography (US), computed tomography (CT), and morphological verification (fine-needle aspiration, coreneedle, and open biopsy).

Results: Computed tomography was found to be the most sensitive method for assessing local tumor extent (100% diagnostic value). Ultrasonography provided 100% visualization of neoplasms, while the sensitivity of cytological methods in verifying malignancy was 77.8%. Comparative analysis demonstrated the advantage of multimodal approaches. The five-year overall survival rate in the surgery-only group was 54.9% ± 4.2%, whereas the use of combined (surgery + RT/CT) and comprehensive (surgery + RT + CT) methods increased survival to 72.6% ± 10.4% and 71.2% ± 9.0%, respectively. The mean time to local recurrence was 17.6 months, and to distant metastasis was 17.7 months (most frequently to the lungs — 56.8% of cases). Comprehensive treatment reduced the local recurrence rate to 7.1%.

Conclusion: The success of trunk sarcoma therapy directly depends on the radicality of the initial stage (performing combined surgeries in cases of local spread) and the application of adjuvant therapies. Key prognostic factors significantly affecting the outcome include the patient's sex and age, tumor location and size (with a critical threshold of 10 cm), and the histological structure of the neoplasm. The clinical implementation of developed comprehensive diagnostic algorithms and combined treatment protocols improves patient survival and significantly reduces the risk of recurrence.

Mammografik skriningda sun’iy intellekt tizimining milliy populyatsiyadagi diagnostik samaradorligi

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Dolzarbligi. Sut bezi saratoni (SBS) dunyo bo‘yicha ayollarda eng ko‘p uchraydigan xavfli o‘sma bo‘lib, uni erta aniqlashning asosiy usuli mammografiyadir. Ammo mammogrammani talqin qilish ko‘p jihatdan rentgenolog shifokorning tajribasiga bog‘liq, zich bez to‘qimasida esa o‘sma ko‘pincha ko‘rinmay qoladi. Xorijda sun’iy intellekt (SI) tizimlari yuqori natija ko‘rsatgan, biroq ularning aniqligi qaysi populyatsiyada tekshirilganiga bog‘liq. O‘zbekistonda mahalliy ma’lumotlarda sinovdan o‘tgan bunday tizim shu paytgacha bo‘lmagan.
Tadqiqot maqsadi. Mahalliy sharoitga moslashtirilgan SI tizimining SBSni mammografik aniqlashdagi diagnostik samaradorligini rentgenolog shifokorlar xulosalari bilan solishtirib baholash.

Material va usullar. 2022–2023-yillarda Toshkent, Nukus va Samarqand shaharlarida bajarilgan 1759 ta mammografik tekshiruv retrospektiv tahlil qilindi. Ayollarning yoshi 35–80 yosh (o‘rtacha 54,5 ± 7,6 yosh), 47,4 foizida bez to‘qimasi rentgenologik zich (C–D toifalari) bo‘lgan. SBS 316 nafar ayolda (18,0%) gistologik yoki dinamik kuzatuv bilan tasdiqlangan. SI tizimi YOLOv11 neyrotarmoq detektori asosida qurilgan va VinDr-Mammo hamda RSNA xalqaro to‘plamlarida o‘qitilgan; mahalliy tasvirlar o‘qitishda ishlatilmagan. Har bir tekshiruvni rentgenolog shifokor (BI-RADS bo‘yicha) va SI tizimi (0 dan 1 gacha xavf balli) bir-biridan mustaqil baholadi. Bog‘liq ulushlar McNemar mezoni, ROC-egri chiziqlari DeLong usuli bilan taqqoslandi.

Natijalar. Rentgenolog shifokorlar 98,1% sezgirlikka erishdi – 316 ta saratondan atigi 6 tasi o‘tkazib yuborilgan. Lekin spetsifiklik 79,1% ni tashkil etdi: 302 ta xulosa soxta ijobiy bo‘lib chiqdi, xato xulosalarning umumiy ulushi 17,5% ga yetdi. SI tizimining ROC-egri chizig‘i ostidagi maydoni (AUC) 0,914 (95% ishonch oralig‘i 0,892–0,936) bo‘ldi; Youden indeksi bo‘yicha tanlangan 0,495 chegarada sezgirlik 82,9%, spetsifiklik 85,2%, aniqlik 84,8% ni tashkil etdi. Tizim spetsifiklik bo‘yicha shifokorlardan ishonchli ustun keldi ($p < 0,001$), sezgirlik bo‘yicha esa ulardan past bo‘ldi ($p < 0,001$). SI natijasi bez zichligiga deyarli bog‘liq bo‘lmadi: AUC barcha zichlik toifalarida 0,886–0,935 oralig‘ida, eng qiyin D zichlikda 0,913 bo‘ldi. Hududlar o‘rtasida ham farq kichik edi (AUC 0,909–0,926), holbuki shifokorlar xatolari ulushi Toshkentda 15,1%, Samarqandda 22,1% ni tashkil etgan. Eng muhimi, shifokorlar o‘tkazib yuborgan barcha 6 ta saratonni tizim o‘z chegarasidan yuqori ball bilan baholagan, ulardan 5 tasi keyinchalik interval saratoni sifatida namoyon bo‘lgan. Shifokorning 302 ta soxta ijobiy xulosasidan 247 tasini (81,8%) tizim tasdiqlamadi.

Xulosa. Milliy populyatsiyada ilk bor sinovdan o‘tkazilgan SI tizimi yuqori diagnostik aniqlikni ko‘rsatdi va bez zichligi hamda hududdan qat’i nazar barqaror ishladi. Shifokor va tizimning kuchli tomonlari bir-birini to‘ldiradi: shifokor sezgirlikda, tizim spetsifiklikda ustun. Shu sababli SI tizimini skriningda mustaqil emas, balki rentgenolog shifokor qarorini qo‘llab-quvvatlovchi vosita sifatida qo‘llash maqsadga muvofiq.

Тезисы

Тезислар

Sut bezi saratoni mammografik skriningida sun’iy intellektni bi-rads toifasiga qarab tanlab qo‘llash algoritmi

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Dolzarbligi. Mammografik skriningda asosiy muammo saratonni o‘tkazib yuborishdangina iborat emas: soxta ijobiy xulosalar ayollarni ortiqcha qo‘shimcha tekshiruv va biopsiyaga yo‘naltiradi, xavotir tug‘diradi va sog‘liqni saqlash tizimiga qo‘shimcha xarajat keltiradi. Sun’iy intellekt (SI) bu muammoni yengillashtirishi mumkin, ammo uni qanday tartibda qo‘llash hali ochiq savol bo‘lib qolmoqda.

Tadqiqot maqsadi. SI tizimini BI-RADS toifasiga qarab tanlab qo‘llash algoritmini ishlab chiqish va uning samaradorligini rentgenolog shifokorning odatiy talqini bilan solishtirib baholash.
Material va usullar. Toshkent, Nukus va Samarqanddagi 1759 ta mammografik tekshiruv (316 ta tasdiqlangan sut bezi saratoni) juft tamoyil asosida tahlil qilindi: har bir tekshiruvni rentgenolog shifokor va YOLOv11 asosidagi SI tizimi mustaqil baholadi. Avval shifokor xatolari BI-RADS toifalari bo‘yicha o‘rganildi, so‘ngra shu asosda algoritm tuzildi. Natijalar McNemar mezoni bilan baholandi, xatolar ulushi farqining ishonch oralig‘i butstrep usulida hisoblandi.

Natijalar. Shifokorning 302 ta soxta ijobiy xulosasidan 277 tasi (91,7%) uchta toifada – BI-RADS 0, 4A va 4B da to‘plangan; 4C va 5 toifalarida esa xulosaning ishonchliligi yuqori bo‘ldi (saratonni tasdiqlash 82,3% va 94,4%). Shifokor va tizim xulosalarini oddiy birlashtirish foyda bermadi: «istalgan biri ijobiy» qoidasida xatolar ulushi 26,2% gacha oshdi, «ikkalasi ijobiy» qoidasida esa sezgirlik 81,0% gacha tushib, 60 ta saraton o‘tkazib yuborildi. Shu sababli uch tarmoqli algoritm taklif qilindi: BI-RADS 4B, 4C va 5 da shifokor xulosasi qayta ko‘rilmaydi; BI-RADS 0 va 4A da SI hakam vazifasini bajaradi – xavf balli 0,30 dan past bo‘lsa, xulosa salbiy deb yopiladi; BI-RADS 1–3 da xavf balli 0,65 va undan yuqori bo‘lsa, tekshiruv qayta ko‘rib chiqishga yuboriladi. Algoritm qo‘llanganda xato xulosalar ulushi 17,5% dan 13,5% gacha, ya’ni 4,0 foiz punktga kamaydi (95% ishonch oralig‘i 2,79–5,29; $p < 0,001$). Spetsifiklik 79,1% dan 83,9% gacha, ijobiy natijaning prognostik qiymati 50,7% dan 57,3% gacha, aniqlik 82,5% dan 86,5% gacha oshdi. Sezgirlik saqlanib qoldi (98,4%; $p = 1,000$), o‘tkazib yuborilgan saratonlar soni esa 6 tadan 5 taga kamaydi. 70 ta asossiz ijobiy xulosa bartaraf etildi, aniqlangan har bir saratonga to‘g‘ri keladigan ijobiy xulosalar soni 1,97 dan 1,75 gacha qisqardi. Samara barcha kichik guruhlarda kuzatildi va C zichlikda eng yuqori bo‘ldi: xatolar ulushi 19,4% dan 14,4% gacha kamaydi, sezgirlik 97,4% dan 99,1% gacha oshdi.

Xulosa. SI tizimini barcha tekshiruvlarga bir xil emas, balki shifokor xulosasi eng kam ishonchli bo‘lgan BI-RADS toifalarida tanlab qo‘llash skrining sezgirligini pasaytirmasdan soxta ijobiy xulosalarni sezilarli kamaytiradi. Taklif etilgan algoritm Nukus va Samarqand shaharlarida mammografik skriningning pilot loyihasi doirasida amaliyotga joriy etilgan va milliy skrining dasturiga kiritish uchun tavsiya etiladi.

Diagnostic importance of MRI in cardiac tumors

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Purpose. To determine the diagnostic importance of cardiac MRI in patients with suspected cardiac tumors, and to compare MRI findings with echocardiography.

Materials and Methods. Study population: A total of n = 86 patients aged ≥35 years were included. The mean age was 52.4 ± 9.8 years (range 35–74 years). There were 48 males (55.8%) and 38 females (44.2%). USG helped evaluate possible metastatic involvement, pleural or pericardial effusion, and inferior vena cava extension. Cardiac MRI was performed for detailed assessment of intracardiac masses using cine imaging and T1- and T2-weighted sequences. MRI allowed evaluation of tumor characteristics including location, maximum diameter, mobility or attachment, myocardial or pericardial invasion, and the presence of pericardial effusion.

Results. Clinical presentation: Echocardiographic findings (TTE). TTE identified suspected intracardiac masses in 72 patients (83.7%). Pedunculated mobile masses were visualized in 44.2%, broad-based formations in 24.4%, while differentiation between tumor and thrombus remained uncertain in 15.1% of cases. Pericardial effusion was detected in 22.1%, and hemodynamic obstruction affecting valvular inflow or outflow was observed in 16.3% of patients. The estimated diagnostic performance of echocardiography demonstrated a sensitivity of approximately 82%, specificity of 85%, and overall diagnostic accuracy of 83%. Supportive thoracoabdominal ultrasonography was performed in 41 patients (47.7%) where extracardiac spread was suspected. No extracardiac involvement was detected in 23.3% of examined cases. Dyspnea: 46/86 (53.5%).

Chest pain: 29/86 (33.7%). Palpitations/arrhythmia: 24/86 (27.9%). Embolic events: 9/86 (10.5%). Incidental finding: 18/86 (20.9%). Tumor confirmation: MRI confirmed a cardiac mass in 78/86 patients (90.7%). Among confirmed masses (n = 78): Benign tumors: 50 (64.1%). Malignant tumors: 20 (25.6%). Non-neoplastic masses (e.g., thrombus): 8 (10.3%)

Conclusion. Cardiac MRI is a pivotal modality for the diagnostic work-up of suspected cardiac tumors in patients aged ≥35 years.

Early screening for colorectal cancer: Modern approaches and practical significance

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Aim. The aim of early screening is to detect precancerous conditions (adenomatous polyps) and stage I–II colorectal cancer among asymptomatic individuals in order to reduce morbidity and mortality.

Materials and Methods. The main screening methods include colonoscopy, considered the gold standard for individuals over 45 years of age, and fecal occult blood testing (FOBT, FIT). Colonoscopy provides both diagnostic and therapeutic opportunities, including endoscopic mucosal resection (EMR) and endoscopic submucosal dissection (ESD). Organizational measures included regular outreach activities twice a month in district medical associations, implementation of a structured questionnaire for patronage nurses to identify high-risk individuals, and referral of suspected cases for colonoscopic examination and biopsy at the

regional oncology center.

Results. A coordinated screening system improved early detection of precancerous lesions. The number of endoscopic surgical interventions has steadily increased: 18 EMR procedures were performed in 2023, 35 in 2024, and 75 EMR and ESD procedures in 2025. For 2026, a 50% increase in endoscopic interventions is planned. Professional communication among endoscopists was strengthened through a dedicated Telegram group, and public awareness was enhanced through regular educational materials distributed via mass media and social networks.

Conclusion. Early screening enables timely identification of precancerous lesions and early-stage colorectal cancer in asymptomatic populations. This approach significantly improves treatment outcomes and facilitates patients' return to a healthy and productive life.

Diagnostic and prognostic value of laboratory-based screening in the early detection of cervical cancer in the kashkadarya region

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Background. Cervical cancer remains a major public health problem, ranking among the top three malignancies affecting women worldwide. Its incidence and mortality are largely determined by the effectiveness of organized cytological and molecular screening programs.

Methods. In accordance with the Presidential Decree No. PQ-402, a population-based screening program was implemented in the Kashkadarya region from January to October 2025, targeting women aged 30–55 years. Among 582,644 women registered, 194,215 were scheduled for screening; 89,126 (45.9%) underwent examination. Cervical cytology (Pap test) and HPV DNA testing were performed, supplemented by immunohistochemical assays for p16 and Ki-67 markers to assess dysplasia grade and proliferative activity. Quality assurance covered all three laboratory stages—pre-analytical, analytical, and post-analytical—following Bethesda and WHO classification systems.

Results. Histologically confirmed cervical cancer was identified in 58 of 89,126 examined women, corresponding to a detection rate of 0.065% (65 per 100,000 screened). Among positive cases, 43 (74.1%) were detected at early (CIN II–III or stage IA–IB) disease stages, underscoring the effectiveness of the laboratory screening algorithm. HPV DNA positivity was found in 312 women (0.35%), with high-risk HPV types (16/18) accounting for 68.9%. Implementation of internal quality control reduced pre-analytical errors by 22%, and molecular testing improved diagnostic concordance by 18% compared with cytology alone.

Conclusions. Comprehensive laboratory screening integrating cytological, molecular, and immunohistochemical analyses ensures high diagnostic precision in the early detection of cervical cancer. Rigorous multi-stage quality control, trained laboratory specialists, and modern molecular tools significantly enhance screening efficiency, enabling earlier diagnosis and improved prognostic outcomes in the female population of Uzbekistan.

Analysis of Mortality Rates from Colorectal Cancer Between 2021 and 2026 Based on GLOBOCAN Data

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Introduction: Colorectal cancer (CRC) remains one of the leading causes of cancer-related mortality worldwide. Despite improvements in early detection and treatment, mortality rates remain high, particularly in middle-income countries. Analysis of mortality trends based on GLOBOCAN data allows identification of key epidemiological patterns and determinants of CRC-related deaths.

Objective: To analyze global mortality rates from colorectal cancer between 2021 and 2026, with emphasis on age, gender, regional distribution, and major contributing factors.

Materials and Methods: Data from the GLOBOCAN database (IARC/WHO) for 2022 and projected estimates for 2024–2026 were analyzed. Comparative and structural analysis of absolute and relative indicators was performed. Growth rates, proportion of CRC among total cancer deaths, and demographic and regional distributions were assessed.

Results: In 2022, global mortality from colorectal cancer reached approximately 961,000 deaths. Based on current trends, by 2024 this number is expected to exceed 1,010,000, and by 2026 may reach approximately 1,060,000–1,080,000 deaths. Overall, this reflects an increase of about 10–12% over the period from 2022 to 2026, with an average annual growth rate of approximately 2.0–2.3%. Colorectal cancer continues to account for approximately 9.5–10% of all cancer-related deaths worldwide. In terms of demographic distribution, mortality remains significantly higher in men, who die from CRC approximately 1.3–1.5 times more frequently than women. Age remains the most important risk factor, with more than 70% of deaths occurring in individuals older than 60 years, while the 50–64 age group accounts for about 23–25% of total CRC mortality. Regional disparities persist. The highest number of deaths is observed in East Asia, particularly China, where annual mortality exceeds 300,000 cases, accounting for nearly 30% of global CRC deaths. In Europe, mortality remains high at approximately 230,000–240,000 deaths (around 24%), while North America contributes about 135,000–140,000 deaths annually. In Central Asia, including Uzbekistan, mortality rates remain moderately high at approximately 9.8–10.5 per 100,000 population, with nearly 55–60% of cases diagnosed at advanced stages (III–IV). The major contributing factors to high mortality remain largely unchanged. Late diagnosis continues to play a dominant role, with over 60% of cases detected at advanced stages. Screening coverage remains low in many middle-income countries, where less than 20–25% of the eligible population undergo regular screening. In addition, limited access to specialized oncological care, particularly in rural and underserved regions, further contributes to unfavorable outcomes.

Conclusion: Between 2021 and 2026, global mortality from colorectal cancer demonstrates a steady upward trend, increasing by approximately 10–12% and exceeding 1 million deaths annually. Mortality is highest among older males and in regions with limited access to early detection and treatment. Strengthening screening programs, improving early diagnosis, and expanding access to modern oncological care are essential strategies to reduce the global burden of colorectal cancer.

Qoraqalpog‘iston Respublikasida pilot skrining dasturi ikkinchi bosqichining natijalari

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Maqsad: Bachadon bo’yni saraton oldi kasalliklarida qayta test qilish yordamida ayollarda HPV holatini aniqlash.

Materiallar va usullar. 2023-yilda Qoraqalpog‘iston Respublikasida 6000 ta HPV testini o‘tkazish rejalashtirilgan edi: 30-55 yoshdagi 3000 nafar ayolni dastlabki skriningdan o‘tkazish, shuningdek, saraton oldi va bachadon bo‘yni saratoni skrining birinchi bosqichida kuzatilgan yoki davolangan 3000 nafar ilgari HPV musbat ayollarni takroriy testdan o‘tkazish. 2021-2022 yillarda pilot loyiha doirasida jami 5941 nafar ayollar skrining tekshiruvidan o‘tkazildi, shundan 3079 nafari HPVga dastlabki, 2862 nafari takroriy testlarga qamrab olindi, umumiy skrining qamrovi 99,0 foizni tashkil etdi. Tahlil Cepheid Gene Xpert tizimida o’tkazildi.

Natijalar: HR HPV turlari dastlab sinovdan o’tgan 236 ayolda (7,7%) va qayta sinovdan o’tgan 961 ayolda (33,6%) aniqlandi. Dastlabki hisobot shuni ko’rsatdiki, asosan HPV bilan kasallangan 236 ayolda CIN I- 16 (6,8%), CIN II- 28 (11,9%), CIN III- 14 (6,0%), MDH 6 (2,6%) va bachadon bo’yni saratoni 4 (1,7%) ayollarda aniqlangan. CIN II+ bo’yicha kuzatilgan yoki davolangan 961 takrorlanuvchi HPV-musbat ayollar orasida CIN I- 81 (8,4%), CIN II- 108 (11,2%), CIN III- 67 (7,0%), Cancer in situ - 19 (2%) va bachadon bo’yni saratoni 6 (6) ayollarda aniqlangan. Ya’ni, onkogen HPV turlarining persistentsiyasi uning onkogen potentsialini amalga oshirish yoki CIN II+ va/yoki bachadon bo’yni saratonining qaytalanishiga sabab bo’ladi.

Xulosa. Davolangan ayollarda HR HPV turlarini qayta tekshirish tahlili HPV musbat ayollarni CIN 2+ takrorlanishi va bachadon bo’yni saratonini erta aniqlash uchun, ayniqsa tashxis va davolashdan keyingi dastlabki 5 yil davomida majburiy monitoringini o’tkazish zarurligini ko’rsatadi.

Клинико-диагностическая значимость внедрения интеллектуальных алгоритмов в систему скрининга рака молочной железы с оценкой влияния когнитивных искажений и профессиональных факторов врача на точность верификации

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Введение. Рак молочной железы стаётся одной из ведущих причин онкологической смертности среди женщин. Повышение точности ранней диагностики является ключевым фактором снижения летальности. В последние годы активно внедряются системы искусственного интеллекта (ИИ) для анализа маммографических и гистологических данных, однако влияние человеческого фактора при интерпретации результатов остаётся значимым.

Цель исследования Оценить эффективность применения искусственного интеллекта в диагностике рака молочной железы

Материалы и методы: В рамках исследования было проанализировано 500 цифровых маммографий с использованием алгоритмов глубокого обучения и проведена их независимая интерпретация врача-рентгенологом

Результаты исследования: Чувствительность ИИ-системы составила 78%, специфичность — 84%. Средняя чувствительность врача составила 87%, специфичность

— 85%. Комбинированный подход (ИИ + врач) повысил общую диагностическую точность до 96%. Отмечено снижение ложноположительных заключений при использовании системы поддержки принятия решений. Из общего числа обследований в 320 случаях (64%) были выявлены доброкачественные изменения, в 130 случаях (26%) — злокачественные новообразования, а в 50 случаях (10%) патологические изменения не обнаружены., среднее количество интерпретируемых исследований в день (от 15 до 60) Полученные данные демонстрируют, что искусственный интеллект способен снижать вариабельность интерпретации и компенсировать влияние усталости и субъективности.

Вывод: Полученные результаты могут быть обусловлены высокой способностью алгоритмов искусственного интеллекта выявлять минимальные морфологические изменения за счёт анализа многопараметрических цифровых данных при диагностике рака молочной железы. Более низкая диагностическая точность специалиста включая когнитивную нагрузку, утомляемость и субъективность интерпретации изображений. Повышение общей эффективности при комбинированном подходе объясняется синергией алгоритмического анализа и клинического опыта врача. Таким образом, различия в показателях чувствительности и специфичности имеют как технологическую, так и профессионально-психологическую природу.

Роль скрининга колоректального рака в группах повышенного и возрастного риска

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Целью нашего исследования было проведение скрининга в группах риска при колоректальном раке и получить данные для скрининговой программы для выявления ранней диагностики заболевания.

Материалы и методы. Исследование было проведено на кафедре хирургических болезней III за период с мая 2021 по декабрь 2025 г. 223 человек прошли скрининговую колоноскопию. В исследование были включены лица, в анамнезе которых наблюдался семейный колоректальный рак и лица старше 45 лет, которые участвовали в скрининге добровольно без семейного отягощённого анамнеза. Женщин было 125 (56%), а мужчин 98 (44%). Эндоскопическое исследование проводилось в хирургическом отделение в университетской клинике. Было получено письменное согласие от всех лиц. Ни у одного больного осложнения (кровотечение, перфорация) не наблюдались. При диагностирование полипа во время исследования или позже проводилось полипэктомия. Люди с анамнезом колоректального рака и с другими заболеваниями кишечника не были включены в исследование.

Результаты. Полипы были обнаружены у 63 (28,25%), а злокачественное образование у 5 (2,24%) больных, которым была проведена биопсия. Мы рассмотрели локализацию полипов, обнаруженных у 63 больных. В правой половине толстой кишки было обнаружено 10 (16%), в поперечной -9 (14%), в левой половине толстой кишки-32 (51%), в прямой кишке -12 (19%) полипов. Среди 5 больных со злокачественной массой полип, локализованный в прямой кишке, наблюдалось у одного, а в левой половине толстой кишки - у 4 пациента. При гистопатологической оценке среди 63 пациентов аденоматозный полип встречались у 49 (78%), злокачественный полип - у 5 (8%), воспалительные - у 9 (14%). У пациентов со злокачественным образованием аденокарцинома была выявлена у 5 (2%) больных. Этим больным мы провели хирургическую операцию.

Выводы. На сегодняшний день колоноскопия является золотым стандартом в скрининге колоректального рака, скрининговая программа колоректального рака является актуальным. Целесообразно проведение скрининга в более широком масштабе, чтобы получить более адекватные результаты, так как наше исследование не полностью отражает частоту распространения колоректального рака в нашей республике. Но, нужно иметь ввиду, что колоректальный рак можно лечить при ранней диагностике до развития рака.

Факторы поздней диагностики рака желудка и ободочной кишки в Аранском регионе

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Цель. Проанализировать распространённость стадий злокачественных новообразований желудка и ободочной кишки, а также выявить основные причины поздней диагностики в Аранском экономическом районе Азербайджанской Республики с целью улучшения раннего выявления.

Методы. Проведён ретроспективный анализ статистических данных по заболеваемости раком желудка и ободочной кишки в Аранском экономическом районе за 2018–2021 гг. на основе форм 027-28. Изучено распределение пациентов по стадиям заболевания (I–IV), причины поздней диагностики и влияние факторов риска. Выполнена статистическая оценка корреляции между стажем и квалификацией врачей и стадией заболевания на момент диагностики ($p<0,001$).

Результаты. Заболеваемость раком желудка среди мужчин в 2 раза выше, чем среди женщин (15,3 и 6,7 на 100 000 соответственно). В Аранском районе большинство случаев рака желудка диагностируется на III (36,2%) и IV (35,7%) стадиях, в то время как рак ободочной кишки преимущественно выявляется на I–II стадиях (45,6%), III стадии — 32,1%, IV — 22,3%. Основными причинами поздней диагностики рака желудка являются поздняя обращаемость пациентов (29,42%) и диагностические ошибки врачей (15,30%). Для рака ободочной кишки ведущими причинами стали поздняя обращаемость пациентов (28,73%), диагностические ошибки (18,09%) и латентное течение заболевания (15,96%). Выявлена сильная корреляция между стажем врача и поздней диагностикой ($p<0,001$), а также обратная корреляция между квалификацией врача и долей поздних стадий ($p<0,001$).

Заключение. В Аранском экономическом районе сохраняется высокий уровень поздней диагностики рака желудка (III–IV стадии — 71,9%), что значительно ухудшает прогноз выживаемости. Основные причины — задержка пациентов в обращении, неполный сбор анамнеза и низкая онкологическая настороженность амбулаторных врачей. Для рака ободочной кишки ситуация лучше, но требуются меры по повышению качества первичной диагностики, онкологической грамотности медицинского персонала и организации скрининговых программ.

ОПУХОЛИ МОЛОЧНОЙ ЖЕЛЕЗЫ

CA 15-3 as a predictive marker of breast cancer among male population in Azerbaijan

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Abstract. Breast cancer is the most common cancer in the world, in the same time male breast cancer is rare, less than 1% from all cancer cases, but it often diagnosed at later stages, leading to a high mortality rate.CA 15-3 is a serum tumor marker, which uses in monitoring of breast cancer, not only in women, but also in males.It uses for detecting recurrence or assessing treatment response, not for initial diagnosis, because CA 15-3 levels are often normal in early-stage breast cancer. Also elevated levels occur with liver disease, inflammations and other cancers.

Aim. Determinate level of cancer antigen CA15-3 in serum of male patients with suspected breast cancer diagnosis.

Material and Methods. This was retrospective study, between 2019-2025, which included male patients aged 15-88with suspected breast cancer diagnosis. For determination of CA 15-3 we analized blood serum collected from 838 male patients. Test perfomed on automatic analizer Roche Cobas 6000 based on electrochemiluminescent method.

Results. Totally we analysed 838 patient serums for CA 15-3 level, and also we devided patients by age groups 15-25, 26-40, 41-54, 55-70and 71-88 years. The reference value of CA 15-3 for males is 0-25 U/mL. From analysed 838 samples 397 was with elevated CA15-3level, in the group 15- 25was 2, 26-40 was 11, 41-54 was 71, 55-70 was 243 and in 71-88 age group was70. The most CA 15-3 elevated level rate was in group aged 55-70.

Conclusion. World statistics shows, that male breast cancer diagnosis often occur between ages 60-70. In our study CA 15-3 elevated level was in the simillar age group, so from 397 elevated CA15-3 levels 243 was in group 55-70.

Neoadjuvant Dual HER2 Blockade in Non-Luminal Breast Cancer: Impact on Pathological Complete Response and Survival Outcomes

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Aim of the study. To evaluate the impact of neoadjuvant dual HER2-targeted blockade on pathological complete response (pCR) rates in non-luminal HER2-positive breast cancer. The study also assessed its effect on survival outcomes, including disease-free survival (DFS) and overall survival (OS).

Materials and Methods. Forty female patients with confirmed non-luminal HER2-positive breast cancer, clinical stage II–III (cT2–4, cN0–3, M0), received neoadjuvant systemic therapy followed by surgery between January 2021 and December 2023. Hormone receptor negativity (ER <1%, PR <1%) and HER2 overexpression or amplification were mandatory. Patients were divided into two arms: Arm A (n=20) — chemotherapy with single HER2 inhibition, and Arm B (n=20) — chemotherapy plus dual HER2 blockade. Tumor response was assessed radiologically; pCR was defined as absence of invasive carcinoma in breast and nodes.

Results. Overall ORR was 73.7% (28/38). Dual blockade achieved 81.8% (18/22) versus

62.5% (10/16) with single-agent therapy (p=0.028). pCR occurred in 47.4% (18/38) overall, 59.1% (13/22) in dual blockade versus 31.3% (5/16) in single-agent (p=0.015). Median follow-up was 32 months. Median DFS was 26.4 months for dual blockade and 19.8 months for single-agent (HR=0.57; p=0.034). Two-year DFS rates were 68.2% vs 43.8%. Preliminary OS at 24 months was 90.9% vs 81.3%.

Conclusion. Neoadjuvant dual HER2 blockade significantly enhances pCR and medium-term DFS in non-luminal HER2-positive breast cancer with manageable toxicity. These results support its use as a standard neoadjuvant approach to optimize tumor eradication and improve clinical outcomes in this aggressive subtype.

Clinical effectiveness of a molecular subtype–based approach in invasive breast carcinoma

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Background. Invasive breast carcinoma remains the leading oncological disease among women worldwide. The prognosis of the disease depends on the tumor's morphological characteristics and molecular-biological profile. Individualized treatment strategies based on immunohistochemical (IHC) markers represent one of the key priorities of modern oncology.

Aim. To determine molecular subtypes based on immunohistochemical findings in patients treated for invasive breast carcinoma and to evaluate their impact on clinical treatment outcomes.

Materials and Methods. Between 2019 and 2024, a total of 897 patients were treated with a diagnosis of invasive breast carcinoma. Among them, 478 patients (53.3%) underwent immunohistochemical evaluation. The distribution of molecular subtypes was as follows: Luminal A – 168 (35.1%); Luminal B – 124 (25.9%); HER2-positive – 96 (20.1%); Triple-negative – 90 (18.8%). Statistical analysis was performed using the χ^2 (chi-square) test, with $p<0.05$ considered statistically significant.

Results. In luminal subtypes, the use of hormone therapy reduced the risk of recurrence by 1.8 times ($p<0.05$). In the HER2-positive group, the addition of targeted therapy increased the 2-year overall survival rate by 14.6%. In the triple-negative breast cancer (TNBC) group, high Ki-67 expression (>30%) was observed in 72.2% of cases, and this subgroup demonstrated a statistically significantly higher progression rate ($p<0.05$). Among 419 patients (46.7%) who did not undergo IHC testing, individualized therapy was limited, and poorer prognostic outcomes were observed.

Conclusion. A molecular subtype–based clinical approach in invasive breast carcinoma significantly improves treatment effectiveness. The broader implementation of immunohistochemical testing contributes to improved patient prognosis.

Artificial intelligence–based digital morphometry in diffuse breast cancer

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Objective: To evaluate the role of artificial intelligence (AI)–assisted digital morphometry in quantitative ass:essment of structural alterations in diffuse breast cancer.

Materials And Methods: Histological sections obtained from biopsy specimens were digitized using NanoZoomer Digital Pathology. Quantitative morphometric analysis was performed using QuPath 0.5.0 and Image Pro Max software platforms. Measurements were standardized within an 84,000 μm² field. Evaluated parameters included stromal area, lobular and ductal structures, vascular density, inflammatory infiltrate, interstitial edema, and nuclear–cytoplasmic index (NCI). Statistical analysis was conducted using parametric and non-parametric methods ($p<0.05$).

Results: AI-assisted analysis enabled precise quantification of architectural remodeling across histological variants of diffuse breast carcinoma. In the ductal invasive variant, stromal area increased to 47.31±1.05%, while lobular structures decreased 3.31-fold, confirming severe glandular disruption. In the lobular invasive variant, stromal reduction (13.31±1.01%) was accompanied by a 1.4-fold increase in lobular structures and a 2.4-fold rise in vascular area (9.13±0.36%), reflecting active neoangiogenesis. In the inflammatory variant, vascular density increased 2.74- fold (10.43±1.08%), with inflammatory infiltrate occupying 10.38±0.03% and interstitial edema 6.13±0.08% of tissue area. Significant differences were observed among variants in stromal ratio, vascular area, and NCI values ($p<0.05$). Automated measurement minimized observer bias and enhanced reproducibility.

Conclusion: AI-based digital morphometry provides objective, reproducible, and quantitative evaluation of diffuse breast carcinoma microarchitecture. The technology enables accurate differentiation of histological variants and detailed assessment of stromal remodeling, angiogenesis, and cellular atypia. Integration of AI-assisted morphometry into pathological practice may significantly improve diagnostic precision and prognostic stratification.

Digital morphometric features of diffuse ductal invasive breast carcinoma

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Objective: To evaluate digital morphometric characteristics of diffuse ductal invasive breast carcinoma and compare them with control breast tissue.

Materials And Methods: Histological sections prepared from biopsy specimens were scanned using NanoZoomer Digital Pathology. Morphometric analysis was performed with QuPath 0.5.0 and Image Pro Max software. Measurements were calculated on a standardized 84,000 μm² field. Parameters included stromal area, ductal area, vascular area, lobular structures, and nuclear–cytoplasmic index (NCI). Statistical analysis was performed using Student's t-test and χ^2 test, with significance set at $p<0.05$.

Results: Diffuse ductal invasive carcinoma demonstrated pronounced stromal expansion (47.31±1.05%) compared to control tissue (30.12±1.01%; $p<0.01$), reflecting extensive fibrous

remodeling of the tumor microenvironment. Lobular area markedly decreased 3.31-fold (13.65±1.07% vs 45.29±1.05%; $p<0.05$), indicating severe disruption of normal glandular architecture. Ductal structures significantly increased, occupying 33.38±1.06% of the measured field, representing a 2.5-fold rise relative to controls (13.39±1.01%; $p<0.01$). This finding confirms architectural predominance of invasive ductal components. Vascular area was reduced to 5.66±1.04%, nearly two times lower than control values (11.2±1.01%; $p<0.01$), suggesting compression and structural destruction of vascular walls by proliferating epithelial tumor cells. The nuclear– cytoplasmic index decreased to 0.69±0.01 compared to 0.83±0.03 in controls ($p<0.05$), reflecting relative cytoplasmic reduction and nuclear structural alterations associated with tumor cell atypia and dedifferentiation.

Conclusion: Diffuse ductal invasive carcinoma is characterized by stromal predominance, architectural disorganization, and quantitative morphometric imbalance. AI-assisted digital morphometry provides objective and reproducible assessment of structural alterations and may enhance pathological evaluation and prognostic stratification.

Improvement of diagnosis and treatment of breast cancer at the TisN0M0 and T1N0M0 stages

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Objective: To evaluate the effectiveness of modern diagnostic and treatment methods for early- stage breast cancer (TisN0M0 and T1N0M0) and to identify ways to further improve their clinical application.

Materials and Methods: A retrospective analysis was performed using clinical data from 60 patients with morphologically confirmed early-stage breast cancer (TisN0M0 and T1N0M0) treated at a specialized oncology center. The diagnostic algorithm included clinical examination, mammography, breast ultrasound, and core needle biopsy, followed by histological verification and immunohistochemical evaluation of tumor receptor status (ER, PR, HER2/neu). Treatment strategies were determined according to international clinical guidelines and included breastconserving surgery, radiotherapy, and adjuvant systemic therapy such as hormonal and targeted treatment.

Results: Among the patients, TisN0M0 stage was diagnosed in 18 cases (30%), while T1N0M0 stage was identified in 42 cases (70%). Breast-conserving surgery (sectoral resection or lumpectomy) was performed in 52 patients (86.7%), whereas radical mastectomy was required in 8 patients (13.3%). Postoperative radiotherapy was administered to 48 patients (80%). Adjuvant hormonal therapy was prescribed in 39 patients (65%) with hormone receptor–positive tumors, while targeted therapy was used in 12 patients (20%) with HER2-positive status. During follow- up, local recurrence occurred in 3 patients (5%). The five-year overall survival rate reached 95%, demonstrating the effectiveness of early diagnosis and comprehensive treatment.

Conclusions: Modern diagnostic approaches, including mammographic screening and morphological verification, enable early detection of breast cancer. A comprehensive treatment strategy combining breast-conserving surgery, radiotherapy, and systemic therapy reduces recurrence risk and improves long-term outcomes. Further development of screening programs and implementation of molecular diagnostics and personalized treatment strategies are essential for improving breast cancer management.

Morphometric characteristics of diffuse lobular invasive breast carcinoma

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Objective: To assess quantitative morphometric alterations in diffuse lobular invasive breast carcinoma using AI-assisted digital pathology analysis.

Materials And Methods: Histological sections obtained from biopsy specimens were scanned using NanoZoomer Digital Pathology. Digital morphometric measurements were performed with QuPath 0.5.0 and Image Pro Max software. Analysis was standardized within an 84,000 μm² field. Evaluated parameters included stromal area, lobular structures, ductal area, vascular area, and nuclear–cytoplasmic index (NCI). Statistical significance was determined using Student's t-test and χ^2 test ($p<0.05$).

Results: Diffuse lobular invasive carcinoma demonstrated marked reduction of stromal area (13.31±1.01%) compared to control tissue (26.2±1.80%; $p<0.01$), indicating increased cellular predominance. Lobular structures occupied 63.16±0.75% of the measured field, representing a 1.4- fold increase relative to control (45.29±1.05%; $p<0.05$), which reflects hypertrophy and proliferative expansion of lobular components. Vascular area significantly increased to 9.13±0.36%, compared to 3.8±0.97% in control tissue ($p<0.01$), confirming active neoangiogenesis and enhanced tumor vascularization. Ductal area showed no pronounced structural predominance, supporting lobular architectural dominance in this variant. The nuclear–cytoplasmic index decreased to 0.61±0.03 versus 0.83±0.03 in control tissue ($p<0.05$), indicating cytoplasmic volume reduction and cellular atypia consistent with dedifferentiation.

Conclusion: Diffuse lobular invasive breast carcinoma is characterized by cellular predominance, stromal depletion, lobular structural expansion, and pronounced angiogenesis. Quantitative morphometry demonstrates significant architectural remodeling and increased vascular density, reflecting aggressive biological behavior. AI-based digital analysis provides objective assessment of tumor microarchitecture and may serve as a reliable adjunct tool in diagnostic and prognostic evaluation.

Morphometric features of inflammatory diffuse breast carcinoma

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Objective: To evaluate quantitative tissue morphometric alterations in inflammatory diffuse breast carcinoma using digital image analysis.

Materials And Methods: Histological sections obtained from biopsy specimens were digitized using NanoZoomer Digital Pathology. Morphometric analysis was performed with QuPath 0.5.0 and Image Pro Max software. Quantitative measurements were standardized within an 84,000 μm² field. Parameters included stromal area, ductal structures, vascular area, lobular area, inflammatory infiltrate, interstitial edema, and nuclear–cytoplasmic index (NCI). Statistical analysis was conducted using Student's t-test and χ^2 test ($p<0.05$).

Results: Inflammatory diffuse breast carcinoma demonstrated prominent inflammatory infiltration occupying 10.38±0.03% of the measured tissue area. Interstitial edema accounted for 6.13±0.08%, reflecting active stromal reaction and microenvironmental remodeling. Vascular

area significantly increased to 10.43±1.08%, representing a 2.74-fold rise compared to control tissue (3.8±0.97%; $p<0.01$), indicating pronounced neoangiogenesis and vascular congestion. In contrast, stromal (27.22±1.05%) and ductal areas (12.13±1.02%) did not show statistically significant differences compared to control values. Lobular structures decreased 1.34-fold relative to control tissue, suggesting secondary structural destruction due to inflammatory-mediated tissue remodeling. The nuclear–cytoplasmic index was reduced compared to control, reflecting cellular atypia and altered epithelial architecture.

Conclusion: Inflammatory diffuse breast carcinoma is characterized by intense inflammatory infiltration, vascular proliferation, and interstitial edema, leading to significant microarchitectural disruption. Increased vascular density and stromal reaction reflect active tumor– microenvironment interaction and potential aggressive biological behavior. AI-assisted digital morphometry provides objective quantitative validation of these structural alterations and may improve diagnostic precision and prognostic assessment.

Transforming Outcomes in Hereditary Breast Cancer: From Genetic Risk Identification to Impact-Driven Personalized Care

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Background: Hereditary breast cancer represents a small but clinically high-impact subset of breast malignancies, strongly associated with early-onset disease, aggressive tumor biology, and intergenerational cancer burden. Although advances in genomic technologies have improved the detection of pathogenic germline variants, consistent translation of genetic risk identification into equitable clinical benefit remains a major challenge across healthcare systems.

Methods: This impact-focused analysis synthesizes current evidence on hereditary breast cancer, emphasizing actionable genetic testing, clinical decision-making, and health system integration. International guidelines, pivotal clinical trials, and real-world implementation studies were reviewed to evaluate the gap between genetic discovery and measurable patient outcomes. Particular attention was given to models improving accessibility and cost-effectiveness of genetic services.

Results: Early identification of pathogenic germline variants enables personalized surveillance strategies, risk-reducing surgical interventions, and biologically guided systemic therapies. These approaches are associated with reductions in cancer incidence, treatment-related morbidity, and mortality among high-risk populations. However, disparities in access to genetic counseling, limited testing infrastructure, and insufficient multidisciplinary coordination significantly reduce real-world impact, particularly in resource-constrained settings. Emerging clinician-led testing pathways and streamlined genetic service models demonstrate improved uptake, shorter turnaround times, and cost-effectiveness without compromising ethical or quality standards.

Conclusion: Optimizing outcomes in hereditary breast cancer requires a shift from gene discovery alone toward system-level implementation of precision oncology. Integrating genetic risk assessment into routine oncologic practice can transform both individual patient trajectories and population-level cancer control. Sustainable investment in scalable, contextadapted genetic services is essential to reduce preventable cancer burden and achieve high- impact, equitable care

Treatment effectiveness in patients with early-stage triple-negative breast cancer

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Objective: To evaluate the clinical effectiveness of comprehensive treatment strategies in patients with early-stage triple-negative breast cancer (TNBC) and to determine potential directions for improving therapeutic approaches.

Materials and Methods: A retrospective study included clinical data from 72 patients diagnosed with early-stage triple-negative breast cancer (T1–T2N0M0). The diagnostic algorithm comprised clinical examination, mammography, breast ultrasound, biopsy, histological verification, and immunohistochemical analysis including evaluation of estrogen (ER), progesterone (PR), and HER2 receptors, as well as assessment of the proliferative marker Ki-67. Tumor differentiation was classified according to histological grades G1–G3. Treatment was performed using a comprehensive approach including breast-conserving surgery or radical mastectomy, followed by adjuvant chemotherapy and radiotherapy when indicated.

Results: Breast-conserving surgery was performed in 46 patients (63.9%), while radical mastectomy was carried out in 26 patients (36.1%). All patients received adjuvant chemotherapy, predominantly based on anthracycline- and taxane-containing regimens. Radiotherapy was administered to 54 patients (75%). A high Ki-67 proliferative index (>40%) was observed in 62% of patients, indicating increased tumor proliferative activity. Histological grading showed G3 tumors in 40% of cases, G2 in 45%, and G1 in 15%. During the follow-up period, local or regional recurrence was observed in 7 patients (9.7%). The three-year disease-free survival rate was 86%, while the overall survival rate reached 90%.

Conclusions: Despite the biologically aggressive nature of triple-negative breast cancer, early detection and the application of comprehensive treatment strategies provide favorable clinical outcomes. The use of individualized treatment approaches based on molecular and biological markers, particularly Ki-67 proliferation index and tumor differentiation grade, significantly improves long-term prognosis. The wider implementation of modern molecular genetic diagnostic methods and personalized treatment strategies may further enhance the effectiveness of TNBC management.

Germline Variant Spectrum in Hereditary Breast Cancer: A Whole-Exome Sequencing Study from Azerbaijan (2023–2026)

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Background. Hereditary breast cancer (HBC) is most commonly associated with pathogenic variants in BRCA1 and BRCA2. However, the application of next-generation sequencing has expanded the spectrum of susceptibility genes. Population-specific genomic data on hereditary breast cancer remain limited in many regions, including the South Caucasus.

Methods. Between 2023 and 2026, a retrospective single-center study analyzed 503 individuals who underwent whole-exome sequencing (WES) for various clinical indications in Azerbaijan. Considering the relatively high prevalence of consanguinity and carrier states

for inherited disorders in the region, WES was frequently preferred over targeted hereditary cancer panels. Among the tested individuals, 50 women were clinically diagnosed with hereditary breast cancer and included in the present analysis. Age distribution was <40 years (21 patients), 41–50 years (17), 51–60 years (8), and >60 years (4). Variant interpretation followed established clinical genetics frameworks, including ACMG recommendations with ClinVar annotation.

Results. The most frequently affected genes were BARD1 (6 cases), MUTYH (5), BRCA1 (5), ATM (5), BRCA2 (4), CDH1 (4), and CHEK2 (4). Variants in other hereditary cancer susceptibility genes were observed only once or twice. Notably, 76% of patients were diagnosed at or before 50 years of age, indicating a predominance of early-onset hereditary breast cancer in this cohort. Co- occurring variants in two or more cancer susceptibility genes were identified in six patients. In addition, variants in several metabolic or recessive disease genes were frequently observed, including G6PD,HFE,GALT,CFTR,MEFV,BTD.

Conclusions. This study provides one of the first genomic overviews of hereditary breast cancer in Azerbaijan. The relatively prominent representation of BARD1 variants together with the predominance of early-onset disease suggests that the genetic architecture of hereditary breast cancer in this population may differ from patterns reported elsewhere. These findings highlight the value of comprehensive genomic testing and the need for population-specific hereditary cancer research in the South Caucasus.

Features of the course of breast cancer in elderly and senile women

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Purpose of the work: To optimize the results of breast cancer treatment in elderly (over 65 years old) patients, taking into account the somatic status and clinical, morphological and biological characteristics of the disease.

Materials and research methods: The study used retro and prospective data, and also analyzed case histories, outpatient records of patients registered at the Samarkand branch of the Republican Oncological and Radiological Scientific Practical Center, for the period from 2018 to 2022. The study included 80 patients with breast cancer (BC) over 65 years old, the oldest patient at the time of treatment was 80 years old. Of these, 60 patients underwent IHC (immunohistochemical study and determined the molecular biological subtype).

Results. Taking into account the criteria and objectives of this study, 60 patients were included who received treatment in the mammology department from 2018 to 2022. All patients were divided into age groups 65-70 years old, 70-75 years old and 75 years old and older. In the group of 70-75 years old 71.9% and in the group 75 and older years 67%. Among all elderly patients included in the study, stage II of the disease predominantly occurs - 50% and stage III in 40%, which indicates the drawbacks of the introduction of widespread early diagnosis (screening) and the lack of oncological alertness in elderly patients.

Conclusions. Thus, studying the features of the course of breast cancer in old age, we came to the following conclusions: Prescribing adjuvant chemotherapy in the treatment of luminal A biological subtype does not improve the indicators of general and relapse-free survival versus hormone therapy.

Experimental study of breast cancer chemoprevention

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Objective of the study: to perform a comprehensive comparative investigation of the chemopreventive activity of a number of synthetic and natural compounds, as well as to evaluate their possible mechanisms of anticarcinogenic action.

Materials and Methods: the study was conducted on 244 female outbred and Wistar rats weighing 100–120 g. The animals were housed 5–6 per cage under standard conditions at a temperature of 20–22°C with a natural light cycle, fed a standard vivarium diet, and provided with water ad libitum. N-methyl-N-nitrosourea (MNU) was used as the carcinogen.

Results: For many years, the pathogenesis of breast precancer and cancer has been associated with the “estrogen theory.” According to current concepts, estrogens remain the leading factors inducing or modifying hormonal carcinogenesis, although the influence of other endocrine factors cannot be excluded. Analysis of serum estradiol and prolactin levels showed that by the end of the experiment, control group animals demonstrated a significant 2.0–2.5-fold increase in estradiol levels ($p < 0.05$).

Conclusions: Among plant-derived compounds, curcumin demonstrated the highest chemopreventive activity, reducing tumor incidence by 55.6% and prolonging the development time of histologically verified tumors by 26%. Evaluation of the complex effects of the studied agents on different stages of mammary tumor pathogenesis, along with dynamic assessment of hormonal-metabolic and immune disturbances, allowed the identification of the most promising approaches for chemoprevention of breast and other hormone-dependent tumors. In “risk groups,” the choice of a specific chemopreventive agent should depend on its dominant anticarcinogenic mechanism. The results support further preclinical studies of letrozole, lovastatin, meloxicam, and rosiglitazone as agents for secondary prevention of breast cancer. Additionally, the identified chemopreventive activity of unsaturated fatty acids, plant-derived compounds (curcumin, resveratrol, limonene, broccoli), and antioxidant micronutrients provides a basis for their further study for both primary and secondary prevention of breast cancer.

Assessment of the risk of radiation cardiotoxicity in left-sided breast cancer based on data from the Khorezm Regional Oncology Center

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Introduction. Breast cancer is the most common oncological disease among women worldwide. Thanks to modern combined treatment approaches, the 5-year survival rate has increased to 85– 95%. One of the most significant complications is radiation-induced cardiotoxicity. Patients with left-sided breast cancer are at particularly high risk because of the close anatomical proximity of the heart to the radiation field during treatment.

Research objective. To determine the frequency of radiation-induced cardiotoxicity in patients with left-sided breast cancer treated with the Terabolt-Co-60 device at the Khorezm Regional Oncology Center and to evaluate the main factors influencing its development.

Materials and methods. The study included patients with left-sided breast cancer treated at the Khorezm Regional Oncology Center between 2022 and 2025. Clinical and treatment parameters were analyzed, including age, stage of disease, radiation dose indicators such as

mean heart dose (MHD), V25 index, and left anterior descending artery dose (LAD). Comorbid conditions including arterial hypertension and diabetes mellitus were also evaluated. Signs of cardiotoxicity were assessed using electrocardiography (ECG).

Results. A total of 75 patients were analyzed. The mean age was 52.4±8.3 years. Stage II disease was observed in 64% of patients, while 36% had stage III disease. Radiotherapy was delivered at a total dose of 50 Gy in either 25 or 20 fractions. The mean heart dose was 4.2±1.8 Gy, the LAD dose was 12.6±5.4 Gy, and the mean V25 index was 5.8%. During a 15-month follow-up period, cardiotoxicity signs were detected in 18 patients (24%), including ECG changes such as repolarization disorders, arrhythmias, and pericarditis.

Conclusion. Left-sided breast cancer radiotherapy carries a considerable risk of cardiotoxicity, particularly in patients receiving higher cardiac radiation doses or having comorbid conditions. Patients with positive lymph nodes also demonstrate increased risk. Careful treatment planning and the use of modern cardiac-sparing techniques such as IMRT may help reduce the risk of radiation-induced cardiotoxicity.

Prevalence, clinical significance and optimized management algorithm for breast cancer patients with HCV infection

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Objective. To determine the prevalence and characteristics of hepatitis C virus (HCV) infection in patients with different clinical stages of breast cancer (BC), to assess its clinical significance, and to develop an optimized management algorithm for this patient population.

Methods. Serological screening for anti-HCV using enzyme-linked immunosorbent assay (ELISA) was conducted in 2,682 patients with BC and 218 patients with benign breast tumors (control group). A prospective analysis was performed in 217 anti-HCV-positive BC patients, including detection of HCV RNA, IgM-anti-HCV, and biochemical markers (alanine aminotransferase [ALT], bilirubin) to classify pathogenetic variants of the infection. The impact of HCV infection on the course of BC, postoperative period, chemotherapy toxicity, and efficacy of antiviral therapy (interferon-based regimens and direct-acting antivirals) was evaluated.

Results. Patients with BC represent a high-risk group for HCV infection (anti-HCV prevalence: 8.1%, significantly higher than in the general population: 2.0%). The infection was predominantly subclinical, with inapparent and hyperfermentemic variants accounting for >90% of cases. The frequency of anti-HCV detection increased with advancing BC stage. Subclinical HCV infection accompanied by laboratory signs of subclinical liver dysfunction was associated with worse prognosis (reduced 5-year survival), higher rates of postoperative complications, and increased chemotherapy toxicity. Antiviral therapy, particularly with sofosbuvir + daclatasvir, was highly effective and well tolerated.

Summary. A differentiated management algorithm has been developed for BC patients with concomitant HCV infection, categorizing them into four clinical groups based on viremia and liver dysfunction. This approach enables individualized antitumor treatment and timely initiation of antiviral therapy, thereby improving clinical outcomes.

Clinical predictors of metastasis in breast cancer: evaluation of comorbid conditions associated with endothelial dysfunction

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Objective. To evaluate the impact of comorbidities associated with endothelial dysfunction on the development of metastasis in patients with breast cancer.

Materials and Methods. A retrospective cohort study included 204 patients diagnosed with breast cancer. Among them, 103 (50.5%) had metastatic disease, while 101 (49.5%) were diagnosed at stages I–III without distant metastasis. Comorbid conditions associated with endothelial dysfunction, including arterial hypertension, type 2 diabetes mellitus, grade II–III obesity, and ischemic heart disease, were identified in 112 (54.9%) patients. Endothelial dysfunction was present in 53 (51.5%) patients with metastasis. Associations were first evaluated using univariate analysis and subsequently using multivariate logistic regression adjusted for age, tumor size (T stage), lymph node involvement (N stage), and menopausal status. Model discrimination was assessed using ROC curve analysis, and the area under the curve (AUC) was calculated.

Results. In univariate analysis, no statistically significant association was observed between endothelial dysfunction and metastasis (OR = 0.75; 95% CI 0.43–1.30). In multivariate analysis, advanced tumor stage (T3–T4) was identified as an independent and strong predictor of metastasis. Patients with higher T stage had a 2.92-fold increased likelihood of developing metastasis compared to those with lower stage tumors (OR = 2.92; 95% CI 1.55–5.49; p = 0.001). Premenopausal status was significantly associated with increased metastatic risk, with a 3.98- fold higher likelihood compared to postmenopausal patients (OR = 3.98; 95% CI 1.33–11.92; p = 0.014). Increasing age was also independently associated with metastatic development; each additional year increased the risk by approximately 7% (OR = 1.07; 95% CI 1.02–1.13; p = 0.01). The model demonstrated moderate discriminatory ability with an AUC of 0.681.

Conclusion. In breast cancer, metastatic development is primarily associated with tumor stage and reproductive status, while comorbidities related to endothelial dysfunction were not identified as independent prognostic factors.

Digital algorithm for the prophylaxis and management of postoperative complications in breast cancer reconstructive surgery

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Objective: The primary objective of this research is to develop and evaluate a digital predictive algorithm aimed at reducing postoperative complications in patients undergoing reconstructiveplastic surgery following a mastectomy for breast cancer.

Materials and Methods: The study is based on a retrospective and prospective analysis of 30 clinical cases. Data collection includes patient demographics, comorbidities BMI, diabetes, smoking and surgical specifics. The core of the methodology is the creation of a digital risk-stratification algorithm. This software-based tool processes input variables to categorize patients into low, moderate, and high-risk groups, subsequently recommending personalized prophylactic measures such as optimized drainage and targeted pharmacotherapy.

Results: Preliminary results indicate that the most common complications are seroma formation 18% and skin flap necrosis 12%. The application of the proposed digital algorithm

allows for an objective preoperative assessment, replacing subjective clinical intuition. Initial testing suggests that by identifying high-risk patients early and applying targeted prophylaxis, the overall rate of local complications can be reduced by approximately 15%. The algorithm demonstrates high sensitivity in predicting vascular-related issues in autologous reconstructions.

Conclusion: The integration of a digital algorithm into oncoplastic surgery represents a transition toward personalized medicine. By objectively predicting risks, surgeons can implement specific prophylactic protocols that significantly improve aesthetic outcomes and patient quality of life. This mathematical approach provides a reliable decision-support system for minimizing surgical risks in breast cancer recovery.

Cytologic features reflecting growth pattern heterogeneity and grade in breast ductal carcinoma in situ

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Background: Approximately 20% of the breast carcinoma cases detected on mammography screening represent ductal carcinoma in situ (DCIS). Cytopathologists are exposed to cytologic material from DCIS when nonpalpable, mammographic lesions are aspirated during the workup of organized and opportunistic mammography screening.

Methods: The material in the current study was comprised of 80 representative fine-needle aspiration cytology (FNAC) smears from histologically confirmed DCIS of the breast that were diagnosed between 2015-2025. Smears were rescreened to search for the following features: nuclear size (grading), monolayer sheets, solid and cribriform epithelial aggregates, micropapillary and true papillary structures, comedo-type necrosis, microcalcifications, myoepithelial cells, and discohesion.

Results: There were 56 high-grade lesions (70% were Grade 3) and 40 nonhigh-grade lesions (Grades 1 and 2). The concordance between the cytologic and histologic grading was 96% in the Grade 3 lesions and 94% in the Grade 1/2 lesions. Smears from Grade 3 DCIS contained solid and/or cribriform epithelial aggregates in > 90%% of the cases, whereas smears from Grade 1/2 lesions were found to contain cribriform aggregates in 92% of the cases. Pure subtypes were virtually nonexistent. Monolayer sheets were found in 50% of nonhigh-grade DCIS and in 18% of high-grade DCIS. Myoepithelial cells were demonstrated in 50% of the nonhigh-grade DCIS lesions and 30% of the Grade 3 lesions. Microcalcifications were found on the smears from 90% of nonhigh-grade lesions and 80% of high-grade lesions. Approximately 50% of high-grade DCIS and 30% of nonhigh-grade DCIS were found to harbor a distinct single cell population.

Conclusions: The findings on FNAC from DCIS of the breast completely mirror the histologic heterogeneity of growth pattern subtypes. Primary cytologic grading can effectively separate the high-grade lesions from the nonhigh-grade lesions.

Extent measurement of ductal carcinoma in situ in breast excision specimens: a four-method comparison

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Background: Measuring the extent of nonpalpable ductal carcinoma in situ (DCIS) in a breast specimen is challenging but important because it influences patient management. There is no standardized method for estimating the extent of DCIS, although serial sequential sampling with mammographic correlation is considered an accurate method.

Objective: To estimate the extent of DCIS using various methods and to compare these estimations with the extent as determined by the serial sequential sampling method.

Methods: A total of 32 primary breast excisions with DCIS were retrospectively reviewed. All specimens had been sampled using the serial sequential sampling method, which involved mapping the location of each block on the sliced specimen radiograph and calculating the extent through 3-dimensional reconstruction. The other measures for estimating extent included (1) calculating size based on areas of calcification, (2) recording the number of blocks involved by DCIS and multiplying that number by 0.3 cm, and (3) measuring the largest extent of DCIS on a single slide.

Results: All 3 alternative methods tended to underestimate the DCIS. Discrepancies became more pronounced as size increased. The percentage of cases estimated to within 1 cm of the serial sequential sampling method were 80%, 70%, and 50%, respectively, for the calcification, blocks, and single-slide methods; differences of more than 2 cm were seen in 10%, 8%, and 40% of cases, respectively.

Conclusions: The single-slide method performed poorly and should be used only when DCIS is limited to a single slide. Although the calcification and the blocks methods gave better estimates, both produced substantial underestimates and/or overestimates that could affect clinical decision making.

AIDriven Diagnosis in Breast Cancer: Enhancing Early Detection and Reducing Errors

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Objective: The aim of this article is to assess how AI-based deep learning models improve breast cancer detection accuracy, reduce diagnostic errors, and optimize radiologist workflow, while identifying gaps for safer and more generalizable clinical implementation.

Methods: The peer-reviewed literature was analyzed using a systematic review of literature based on PubMed, Scopus, and IEEE Xplore (2015–2025). Only studies that consider AI-based diagnostic systems concerning mammography and breast imaging were considered. Some AI methodologies studied are convolutional neural networks (CNNs), transfer learning architecture, ensemble learning methods, and AI-based computer-aided detection (CAD) systems.

Results and Discussion: Numerous large-scale validation studies have shown that deep learning algorithms have diagnostic performance equal or in certain cases better than expert radiologists. Model accuracy ranges from approximately 90 to >95 percent in curated datasets, with sensitivities between 80–94 percent and specificities between 81–98 percent depending on dataset composition and study design. A ground-breaking study conducted by McKinney et al. found that deep learning models also decreased false positives by 5.7% (U.S.) and false negatives by 9.4% (U.K.) in comparison with radiologists. AI systems used in the protocol of double-reads have been found to decrease workload of radiologists by a significant margin, with certain European screening trials reporting workload reductions of up to 44–88 percent, depending on the triage threshold used.

Conclusion: AI-based diagnostic systems show massive opportunities in enhancing early detection of breast cancer, decreasing primary diagnostic errors, and enhancing workflow efficiency. Nevertheless, there are still issues, such as low generalizability in heterogeneous populations, bias in the dataset, absence of standardized validation measures, lack of explainable AI frameworks that can increase clinical trust. The perspective is future-oriented with the aim of prospective multicentric trials, combining multimodal imaging data, harmonizing regulations, and conducting studies on real-world applications to make safe and fair clinical practices.

Мультимодалная лучевая диагностика в раннего рака молочной железы

Nishanova Yulduz Xatamovna

Цель: Оптимизация комплексной диагностики раннего РМЖ с учетом рентгенологических и эхографических особенностей опухолей

Материал и методы. В ретроспективное исследование было включено 159 пациенток с гистологической верификации. Всем пациенткам проводился клинический осмотр, сбор анамнеза и комплексная лучевая диагностика (РМГ, УЗИ).

Результаты. Возраст женщин составил 21-77 лет (средний возраст – 52,9 л). в возрасте 50-59 лет - 61 женщин (38,4%) и 19 женщин (11,9%) - в возрасте старше 60 лет. Моложе 40 лет было 22 больных (13,8%) и в возрасте 40-50 лет - 57 (35,8%). Пациентки в менопаузе преобладали - 49 случаев, 30,8%, в пременопаузе/перименопаузе было 34 женщин (21,4%). Подавляющее большинство больных не имели явных факторов повышенного высокого риска развития РМЖ (101 больных, 63,5%), отягощенный семейный анамнез был отмечен в 3 случаях (1,9%). У 57 женщин (35,8%) жалобы со стороны молочных желез отсутствовали, 43 (27,0%) отметили наличие уплотнения в молочной железе, а в 9 случаях (5,7%) причиной обращения к онкологу стало наличие выделений из сосков. При пальпации выявлено уплотнение в молочной железе еще у 11 пациенток. Преобладали опухоли, выявленные при РМГ -46 случаев (41,8%), диагностированные при профилактическом УЗИ - 7 случаев (6,4%) или случайно обнаруженные при обследовании по поводу других заболеваний - 3 случая (2,7%). Клинический размер пальпируемого уплотнения в молочной железе составил 0,5 см - 2,9 см (средний размер - 1,28 см), преобладала неправильная форма пальпируемого уплотнения (75,9%), малая подвижность (57,4% и 35,2%, соответственно). Выделения из сосков у пациенток с ранними формами РМЖ были редки (всего 10 случаев, 89,1%), у 3 пациенток (2,7%) -серозные, у 2 (1,8%) - кровянистые, у 2 (1,8%) - зеленые и в 3 случаях (2,7%) -темные.

Выводы. с ранними формами РМЖ ограничены уплотнение определяется при пальпации только в 49,1%, соответственно. Чувствительность РМГ в установлении категории BIRADS 4-5 при раннем РМЖ составила 83%, УЗИ - 81%, а их комбинация (РМГ+УЗИ) -92%, p<0,05.

Neoadjuvan Kemoterapi Alan Hormon Reseptör Pozitif Meme Kanseri Hastalarında Lenfovasküler İnvazyonun Klinikopatolojik Özelliklerle İlişkisi

Ömer Faruk Elçiçek, Okan Avcı

Giriş -Amaç: Meme kanserinde neoadjuvan kemoterapiden sonra opere olan hastalardaki LVI (lenfovasküler invazyon) durumu, önemli bağımsız prognostik bir faktördür. Bu çalışmada neoadjuvan kemoterapi almış hormon pozitif (HR+) meme kanserli hastalarda klinikopatolojik özellikler ile lenfovasküler invazyon arasındaki ilişkiyi ve lenfovasküler invazyon açısından prediktif olabilecek faktörleri incelemeyi amaçladık.

Gereç-Yöntem: HR+/HER2 negatif meme kanseri tanısı ile neoadjuvan kemoterapi alan 126 hastanın dosya kayıtları retrospektif olarak incelendi. İstatistiksel verileri analiz etmek için SPSS istatistik programı (SPSS 26.0, SPSS Inc. Chicago, Illinois) kullanıldı.

Bulgular: Hastaların median yaşı 50'ydi (28-79 yaş). Çoğunluk histolojik alt tip olarak invaziv duktal karsinomdu (%83,3). Luminal A olanların sayısı 31(%24,6), Luminal B olanların sayısı 95(%75,4)'di. Premenopozal ile postmenopozal olanların oranları benzerdi (sırasıyla %46, %54). Hastaların çoğu standart neoadjuvan kemoterapi rejimi antrasiklin ve taksan kombinasyonu ile tedavi edildi. Cerrahi materyallerinde LVİ olmayan hasta sayısı 67(%53,1), LVİ olanlar ise 59(%46,9) idi. Luminal alt tip(p=0,002) ile LVİ arasında anlamlı bir ilişki görüldü (Tablo1). Yapılan multivariate analizde ise Luminal Tip ve histolojik tümör tipi (invaziv ductal, diğerleri) LVI üzerine etkili faktörler olarak saptandı. Buna göre Luminal B olanlarda ve invaziv ductal tip dışı histolojide olanlarda daha az LVI vardı (sırasıyla OR:0,24 %95 CI 0,09-0,64 p=0,004; OR:0,29 %95CI 0,09-93, p=0,039) (Tablo2). Diğer klinikopatolojik özellikler LVİ ile korele değildi (Tablo1).

Sonuç: Neoadjuvan kemoterapi alan meme kanseri hastalarında Luminal A alt grup ve invaziv duktal histolojik tip, lenfovasküler invazyon varlığı açısından anlamlı risk faktörüdür. Bu sonuçların genelleştirilmesi için daha geniş çalışma popülasyonları ile daha fazla çalışmaya ihtiyaç vardır.

Mammografiyada sut bezidagi o'zgarishlarni baholashda sun'iy intellekt roli

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Maqsad. Ushbu tadqiqotning maqsadi mammografiya tasvirlarini SI bilan birgalikda tahlil qilish orqali ko'krak bezidagi patologik o'zgarishlarni aniqlash va tavsiflashdagi diagnostik samaradorlikni baholashdir.

Materiallar va usullar. Tadqiqotga 40–70 yoshdagi bemorlarning 1998 ta mammograma retrospektiv tarzda o'rganildi. SI algoritmlari shubhali hududlarni aniqlash, o'smani segmentatsiya qilish, xavsiz yoki xavvfli o'smalarni farq qilish uchun qo'llanildi. SI natijalari biopsiya orqali olingan gistopatologik ma'lumotlar bilan solishtirildi va sezuvchanlik, spetsifiklik, diagnostik aniqlik baholandi.

Natijalar. SI yordamida tahlil qilingan mammogramalar 1400 holatni xavfsiz, 598 holatni xavfli shubhali sifatida aniqladi. Gistopatologik tekshiruv natijalari esa 1420 holatni xavfsiz, 578 holatni xavli o'sma deb tasdiqladi. SI tizimi xavfli o'smani aniqlashda 88% sezuvchanlik, 89% spetsifiklik va 78,4% diagnostik aniqlik ko'rsatdi. Shu bilan birga, SI ilgari o'tkazib yuborilgan karsinomlarning 54% ini aniqladi va zich sut beziga ega bemorlarda aniqlashni yaxshiladi.

Xulosa. Ushbu tadqiqot shuni ko'rsatdiki, SI yordamida mammografiya ko'krak bezidagi o'sma va patologik o'zgarishlarni aniqlash va tavsiflashni sezilarli darajada yaxshilaydi, ayniqsa

zich sut beziga ega yoki nozik o'zgarishlarga ega bemorlarda. Mammografiya o'z-o'zidan asosiy skrining vositasi bo'lib qolsa-da, SI integratsiyasi diagnostika aniqligini oshiradi va erta tashxisni qo'llabquvvatlaydi. Shu bilan birga, biopsiya orqali gistopatologik tasdiqlash hali ham malign o'smani aniqlashda oltin standart hisoblanadi, chunki u hujayra va to'qima strukturasi to'g'ridan-to'g'ri baholash imkonini beradi, tasvirlash esa buni faqat taxminiy ko'rsatadi.

The importance of p63 and Ki-67 in the diagnosis and prognosis of atypical hyperplasia and non-invasive breast cancer

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Objective: To evaluate the diagnostic and prognostic value of p63 and Ki-67 immunohistochemical markers in atypical ductal hyperplasia (ADH) and non-invasiv breast cancer, particularly ductal carcinoma in situ (DCIS).

Methods: A retrospective study was performed on breast tissue specimens diagnosed with ADH and DCIS. Immunohistochemical staining for p63 and Ki-67 was conducted. p63 expression was used to assess the presence and integrity of myoepithelial cells. The Ki-67 proliferation index was determined by calculating the percentage of positively stained tumor cell nuclei. Associations between marker expression, histopathological characteristics, and potential progression risk were analyzed.

Results: p63 showed strong nuclear staining in myoepithelial cells surrounding ductal structures in both ADH and DCIS, confirming its diagnostic value in differentiating non-invasive lesions from invasive carcinoma. Discontinuous or absent p63 expression increased suspicion of invasive transformation. The Ki-67 proliferation index was significantly higher in DCIS compared with ADH, reflecting greater proliferative activity. Elevated Ki-67 levels were associated with higher nuclear grade and increased recurrence risk.

Conclusion: p63 is a reliable marker for confirming myoepithelial cell presence and distinguishing non-invasive from invasive breast lesions. Ki-67 provides important prognostic information by reflecting cellular proliferative activity. Combined assessment of p63 and Ki-67 improves diagnostic accuracy and contributes to better prediction of disease progression in patients with atypical hyperplasia and non-invasive breast cancer.

Features of postoperative complications of breast cancer

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Objective: To analyze the types, frequency, and clinical manifestations of postoperative complications in patients with breast cancer (BC) following surgical treatment.

Material and Methods: A review and analysis of scientific literature from domestic and international authors covering the period 2012-2025 was conducted. The study examined postoperative complications in BC patients, their classification, pathogenesis, clinical presentations, and diagnostic approaches.

Results: Postoperative complications in BC patients are classified into four main groups: psychoemotional (observed in 56-89% of cases, with reduction to 3-5% within 3-6 months

post-surgery), skeletal-muscular (axillary web syndrome in 5-48%, arthralgic pains in up to 40%), neuromuscular (cervical radiculopathies, brachial plexus plexopathies in 5-52%, phantom breast syndrome in 30- 75%, peripheral polyneuropathies in 15-82% depending on chemotherapy type), and lymphaticvascular complications (lymphedema in 5-31% within the first months). Early complications include subcutaneous seroma due to lymphorrhea (lasting 10-40 days) and wound suppuration (0.5%). Diagnostic methods include MRI, ENMG, ultrasound Dopplerography, and immunological testing for antineuronal antibodies.

Conclusions: Postoperative complications in BC patients are diverse and require a multidisciplinary approach for timely diagnosis and management. The type and severity of complications depend on the surgical technique (extent of lymph node dissection, preservation of pectoral muscles), chemotherapy regimens (taxanes, alkaloids, platinum-based drugs), and individual patient factors. Prevention strategies should focus on minimally invasive surgical techniques, careful preservation of neurovascular structures during lymphadenectomy, and early rehabilitation measures. Long-term follow-up and individualized treatment plans are essential for improving quality of life in BC survivors.

Association of body mass index with the risk of recurrence and mortality in different breast cancer subtypes

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Objective. The aim of this study was to evaluate the association between body mass index (BMI) and the risk of recurrence and mortality across different breast cancer subtypes based on published scientific evidence.

Materials and Methods. This study was conducted as a comprehensive literature review. Scientific articles, meta-analyses, and systematic reviews published in PubMed, Scopus, Web of Science, and Google Scholar were thoroughly analyzed. The selected studies investigated the relationship between BMI levels, breast cancer recurrence, and overall survival outcomes. Particular attention was given to differences among biological subtypes of breast cancer, including hormone receptor–positive and triple-negative forms. Data from multiple high-quality studies were compared to assess consistent patterns and clinically relevant associations.

Results. The majority of reviewed studies demonstrated that elevated BMI is associated with poorer prognosis in breast cancer patients. Obese individuals generally showed lower overall survival rates and a higher risk of disease recurrence compared to patients with normal BMI. Specifically, a BMI ≥30 kg/m² was consistently linked to increased overall mortality. The negative impact of obesity appeared to be more pronounced in certain subtypes, particularly triplenegative and hormone receptor–positive breast cancers. Several studies suggested that excess adiposity may contribute to tumor progression through metabolic dysregulation, chronic inflammation, insulin resistance, and hormonal imbalances, all of which may promote cancer cell proliferation and reduce treatment effectiveness.

Conclusion. High BMI is significantly associated with an increased risk of recurrence and mortality among breast cancer patients. These findings highlight the importance of weight management, lifestyle modification, and metabolic monitoring as part of comprehensive cancer care. Addressing obesity may improve long-term clinical outcomes and survival rates in patients diagnosed with breast cancer.

Relationship Between Body Mass Index and Proliferative Activity (Ki-67) in Breast Cancer

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Objective. The aim of this study was to investigate the relationship between body mass index (BMI) and Ki-67 proliferative activity in patients with breast cancer.

Materials and Methods. This study included 40 patients with histologically confirmed breast cancer. Body mass index was calculated individually using the standard formula based on height and weight (kg/m²). According to BMI values, patients were classified into three groups: normal weight, overweight, and obese. Tumor tissue samples obtained during diagnostic procedures were examined using immunohistochemical methods to determine the Ki-67 proliferative index. Ki-67 expression was assessed as a marker of tumor cell proliferation. The proliferative index was categorized as low (<20%) and high (≥20%). Statistical analysis was performed using the chi-square test, and mean values were expressed as mean ± standard deviation. A p-value of less than 0.05 was considered statistically significant.

Results. Among the 40 patients, 14 (35.0%) had normal BMI, 15 (37.5%) were overweight, and 11 (27.5%) were obese. High Ki-67 expression was observed in 5 patients (35.7%) in the normal BMI group, 8 patients (53.3%) in the overweight group, and 8 patients (72.7%) in the obese group. The mean Ki-67 levels were 18.6±6.4%, 24.8±7.1%, and 31.2±8.3%, respectively. A statistically significant association between BMI and Ki-67 expression was identified (χ^2=4.21; p=0.040). Higher BMI was associated with increased proliferative activity and more aggressive tumor characteristics.

Conclusion. Increased BMI may be associated with higher Ki-67 expression and aggressive tumor behavior. Therefore, BMI assessment may serve as an additional prognostic factor in breast cancer management and clinical evaluation. Конец формы

Toxic liver lesion and risk of secondary lymphedema at breast cancer patients

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Introduction. Breast cancer polychemotherapy has expanded the surgical indication to radical mastectomy, but PGh associates with a toxic liver lesion. RME often complicates by the development of secondary lymphedema.

Purpose. To assess the effect of RME with simultaneous lymphovenous anastomosis on the link of the SL risk with signs of attendant vascular pathology and TL which detected before RME by electrocardiography, sonography etc.

Materials and methods. Retrospectively, from set of BC patients identified in the Samarkand region in 2017-24 who were treated by RME randomly selected 3 groups: I - 70 P treated by «RME+LVA» and without developing S of SL during control period; II - 102 P (I-IVst.) treated by «RME without LVA» and without S of SL; III - 44 P (I-IVst.) treated by «RME without LVA» with S of SL. Before surgery P usually received 4-6 courses of PCh. From P who were cheked by abdominal ultrasound additional 3 groups were composed: 1, 2 (79 P treated by «RME without LVA» without SL), and 3 (65 P treated by “RME+LVA” without SL).

Results. S of VP were detected at 32 (45.7%,) in I, at 57 (55.9%) in II, and at 23 (52.3%)

in III. Differences between groups were not significant statistically (p>0.05). The difference between 1st and 2nd on the one hand and 3rd on the other is significant, and between 1st and 2nd it is not significant. Sonographical S of TL were found at 10 P (27.8%,) in 1st, at 26 (32.9%) in 2nd, at 26 (40.0%) in 3rd.

Conclusion. There were no links between S of VP and the development S of SL after surgery in P with BC. The detection of S of TL by sonography before surgery possibly is significant for prediction of SL after surgery.

Our experience in the surgical treatment of postmastectomy lymphedema using lymphaticovenous anastomosis (LVA surgery)

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Objective: To evaluate the effectiveness of lymphaticovenous anastomosis (LVA) in patients with upper limb lymphedema following mastectomy for breast cancer. This technique has been introduced into clinical practice in the Republic of Uzbekistan.

Materials and Methods: From November 2023 to November 2024, 41 LVA procedures were performed in patients after mastectomy. All patients underwent preoperative indocyanine green (ICG) lymphography for visualization of functional lymphatic vessels. Two patients had bilateral lymphedema after bilateral mastectomy. According to the Yamamoto classification, 10 patients had stage III lymphedema and 31 had stage IV–V disease. At least one suitable lymphatic vessel for anastomosis was identified in all cases. Patients treated within four years after mastectomy demonstrated wider lymphatic vessel lumens, especially those using compression garments and maintaining physical activity. In this early intervention group (10 patients), 2–4 anastomoses were performed. In patients with disease duration exceeding four years (up to 15 years), narrowing of lymphatic vessels limited the procedure to 1–2 anastomoses.

Results: At 6–9 months postoperatively, the early intervention group showed marked reduction of edema, improved skin elasticity, restoration of range of motion, and enhanced quality of life, with no signs of active lymphedema. In the late intervention group, 29 of 31 patients demonstrated decreased arm circumference and improved mobility; however, partial edema persisted, likely due to fibrotic changes. Two patients showed no significant improvement; intraoperatively, sclerosed lymphatic vessels were observed.

Conclusions: LVA has been successfully implemented in Uzbekistan as a treatment for postmastectomy lymphedema. Early surgical referral, consistent compression therapy, and physical activity improve lymphatic vessel patency and clinical outcomes. Even in advanced stages, LVA provides positive dynamics, though to a lesser degree.

Evaluation of treatment effectiveness in metaplastic breast cancer based on immunohistochemical and molecular-genetic profile

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Objective. To evaluate the effectiveness of treatment of metaplastic breast cancer according to molecular-genetic and immunohistochemical profiles.

Materials and Methods. The study was conducted on the basis of RSSPMCOR. Patient Kazakbaeva Musallam noticed a breast mass in 2021 but did not seek medical care. In April 2022, she presented with tumor ulceration, open wound, and bleeding. The following examinations were performed: breast ultrasound, mammography, breast MRI, biopsy, molecular-genetic testing: Tp53-positive; immunohistochemical examination: Bcatenin and Vimentin-positive. Ki- 67 – 80%. ER-negative, PR-negative, CD34-negative, CD10-positive. On palpation, a 5.0×5.0 cm mass with ulceration and bleeding was detected. C50.4 – Left breast cancer cT4N1M0, Stage III, Clinical group II. Tumor necrosis was present. With the diagnosis of metaplastic carcinoma, neoadjuvant polychemotherapy (nPCT) with Docetaxel and Carboplatin AUC 5.5 was prescribed (6 courses).

Results. After 3 courses, severe pain and increased bleeding were observed, without significant tumor changes. After multidisciplinary consultation, treatment was changed to CAP (Endoxan, Doxorubicin, Carboplatin) + Bevacizumab (TP53 mutation-positive). Six courses were planned. After 3 courses, the ulcer decreased and bleeding stopped. Palpation revealed a 1.0×1.5 cm mass (about 80% regression). After 6 courses, the ulcer healed completely and skin retraction appeared. Contrast-enhanced MRI showed tumor disappearance. On 29.09.2022 radical Madden mastectomy was performed. Histology confirmed complete tumor disappearance (98% RECIST, pCR). Radiotherapy and 6 courses of Capecitabine were prescribed. The patient has been followed for 3 years with complete regression.

Conclusion. Treatment based on molecular-genetic and immunohistochemical profiles showed high effectiveness with complete regression. The patient remains under follow-up every 3 months.

Dosimetric Evaluation of Radiotherapy Techniques for Treating Synchronous Bilateral Breast Cancer

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Purpose: This study aims to evaluate and compare the dosimetric properties of four different radiotherapy techniques: helical tomotherapy (HT), volumetric-modulated arc therapy (VMAT), intensity-modulated radiotherapy (IMRT), and tangential field-in-field technique (FIF), when used for synchronous bilateral breast cancer (SBBC) treatment.

Methods and Materials: Ten patients initially diagnosed with early-stage unilateral breast cancer were retrospectively analyzed as if they had SBBC. For each patient, separate treatment plans were developed using HT, VMAT, IMRT, and FIF, all with a prescribed total dose of 50.4 Gy over 28 fractions targeting the breast area. The quality of each plan was assessed based on the conformity index (CI), homogeneity index (HI), and the distribution of the dose-volume to the organs at risk (OARs).

Results: HT plans showed a lower mean heart dose (3.53 ± 0.31Gy) compared with the other plans (VMAT=5.6 ± 1.36 Gy, IMRT=3.80 ± 0.76 Gy, and FIF=4.84 ± 2.13 Gy). Moreover, HT plans showed a significantly lower mean lung dose ($p < 0.01$) compared with the other plans: mean right lung doses were 6.81 ± 0.67, 10.32 ± 1.04, 9.07 ± 1.21, and 10.03 ± 1.22 Gy and mean left lung doses were 6.33 ± 0.87, 8.82 ± 0.91, 7.84 ± 1.07, and 8.64 ± 0.99 Gy for HT,

VMAT, IMRT, and FIF plans, respectively. The mean dose to the left anterior descending artery was significantly lower in HT plans ($p < 0.01$) than in the other plans: HT=19.41 ± 0.51 Gy, VMAT=25.77 ± 7.23 Gy, IMRT=27.87 ± 6.48 Gy, and FIF=30.95 ± 10.17 Gy. FIF plans showed a worse CI and HI compared with the other plans.

Conclusions: For patients with synchronous bilateral breast cancer, helical tomotherapy is superior in minimizing dose exposure to critical organs at risk, including the heart, lungs, and left anterior descending artery, compared to volumetric-modulated arc therapy, intensitymodulated radiotherapy, and the tangential field-in-field technique.

Люминальный А подтип рака молочной железы: от ИГХ-верификации к результатам комплексного лечения

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Актуальность. Рак молочной железы сохраняет ведущие позиции в структуре онкологической заболеваемости среди женщин. Люминальный А подтип — наиболее распространённый молекулярный вариант, характеризующийся благоприятным клиническим течением при своевременно начатом лечении. ИГХ-профиль определяется экспрессией ER+, PR+, отсутствием гиперэкспрессии HER2 и низкой пролиферативной активностью (Ki-67 <20%), что обусловливает высокую чувствительность к эндокринотерапии. Особого внимания требуют пациентки репродуктивного возраста и женщины в периоде менопаузального перехода с учётом гормонального статуса и индивидуальных прогностических факторов.

Цель. Проанализировать непосредственные результаты комплексного лечения пациенток с верифицированным люминальным А подтипом РМЖ на базе специализированного онкологического учреждения.

Материал и методы. В исследование включены 24 пациентки в возрасте от 35 до 55 лет, проходивших лечение в период 2024–2025 гг. в отделении органов репродуктивной системы Каракалпакстанского филиала Республиканского специализированного научно-практического центра онкологии и радиологии. Диагноз РМЖ люминального А подтипа I–III стадии верифицирован на основании морфологических и иммуногистохимических данных. Каждая пациентка получила полный курс комплексного противоопухолевого лечения. В структуре адъювантной гормонотерапии преобладает тамоксифен; у пациенток в постменопаузе применяется ингибитор ароматазы летрозол. Динамическое наблюдение осуществляется с интервалом 3–6 месяцев, общая продолжительность составила 18 месяцев.

Результаты. На момент анализа летальных исходов в исследуемой группе не зафиксировано, все пациентки находятся под динамическим наблюдением. При контрольном обследовании признаков локорегионарного рецидива и отдалённого метастазирования не выявлено. Переносимость гормонотерапии расценивается как удовлетворительная, случаев вынужденной отмены или замены препарата не отмечалось. Полученные результаты согласуются с данными литературы о благоприятном течении люминального А подтипа при своевременно начатом лечении.

Выводы. Комплексный подход к лечению РМЖ люминального А подтипа, включающий хирургическое, химиотерапевтическое, лучевое и длительное гормональное воздействие, обеспечивает достижение стойкого клинического эффекта. Регулярный мониторинг позволяет своевременно выявлять нежелательные явления и корректировать терапию.

ИГХ-типирование опухоли является ключевым инструментом персонализированной терапевтической тактики, формирующим благоприятный прогноз и повышающим качество жизни пациенток. Дальнейшее долгосрочное наблюдение позволит уточнить показатели без рецидивной и общей выживаемости.

Клинико-патогенетические аспекты метапластического рака молочной железы

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Цель исследования. Изучить клинической картины и биологических характеристики метапластический редких гистологических форм рак молочной железы.

Материалы и методы исследования. В связи с этим мы исследовали архив ТГФ РСНПМЦОиР за период с 2019 по 2021 г включительно. Всего было выявлено 32 случаев — метапластический редких гистологических форм, в 1 наблюдении — сочетание 3 редких гистологических вариантов строения и в 2 — листовидная фиброаденома с участками хондроидной метаплазии. Из молекулярных маркеров планировалось оценить: РЭ, РП, Her-2, Ki-67 для всех больных.

Результаты исследования. В данной группе больных на момент диагностики опухоли средний возраст пациентов составлял 57±2,5 года. Размеры опухолевого узла весьма вариабельны: минимально он может быть диаметром 1 см, а максимально — занимает всю ткань молочной железы с прорастанием в кожу или грудную стенку, в среднем 3,5±1 см. Для метапластического рака, особенно с плоскоклеточной метаплазией, характерна картина выраженного поражения кожи — от локального отека до кровоточащих язв и экзофитных разрастаний. Таких наблюдений в нашем исследовании — 16,9%. Диффузный отек пораженной железы был зафиксирован в 9,8% случаев. В 1,4% случаев не удалось обнаружить опухолевый узел при клиническом осмотре. Для метапластической формы, как и для тубулярной, был выявлен наличие метастатического поражения регионарных ЛУ — до 3,52% случаев, вероятно может свидетельствовать о высокой степени метастатической агрессии. Процент цитологической верификации высокий и составляет, по нашим данным, 78,2%. Мультицентричный характер роста встречалось весьма редко, нами он был зафиксирован всего в 9,15% случаев.

Заключения. Особенности клиники и морфологии редких форм РМЖ определяют выбор тактики лечения и прогноз. Метапластический рак отличается «яркой» клинической картиной: экзофитный опухолевый компонент, изъязвления кожи, кровотечения, фиксация опухоли к грудной стенке; помимо этого, отмечены большой процент «разброса» по стадиям и высокая вариабельность рецепторного статуса.

Неоадъювантная полихимиотерапия при метапластическом тройном негативном раке молочной железы: клинико-патологические результаты и анализ выживаемости

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Цель исследования. Оценить эффективность, профиль токсичности и показатели безрецидивной выживаемости при применении различных режимов неоадъювантной полихимиотерапии у пациенток с метапластическим тройным негативным раком молочной железы.

Материалы и методы. Исследование проведено на базе РСНПМЦОиР и в ретроспективный анализ включены 38 пациенток с морфологически верифицированным метапластическим тройным негативным раком молочной железы II–III стадий (T2–4N0–3M0), получавших НПХТ с последующим хирургическим лечением в период 2021-2022– гг. Пациентки были распределены на две сопоставимые группы: группа 1 (n=19) — стандартная антрациклин-таксановая схема (AC→T); группа 2 (n=19) — платинсодержащая схема (таксан + производное платины).

Результаты. Общая частота объективного ответа (ORR) в исследуемой когорте составила 57,9% (22 из 38 пациенток). В группе стандартной антрациклин-таксановой терапии (AC→T) ORR составила 47,4% (9/19), тогда как в группе платинсодержащей схемы — 68,4% (13/19). Различие достигло статистической значимости (χ^2=4,18; p=0,041), что указывает на вероятную клиническую выгоду включения производных платины в режим НПХТ. Патологический полный ответ (pCR) зарегистрирован у 10,5% пациенток в группе 1 и у 26,3% в группе 2 (p=0,048). Гематологическая токсичность III–IV степени наблюдалась у 31,6% пациенток группы 1 и у 47,4% группы 2 (p=0,18). Негематологические осложнения были преимущественно I–II степени и носили управляемый характер. Досрочного прекращения лечения вследствие токсичности не зарегистрировано. При медиане наблюдения 28 месяцев медиана безрецидивной выживаемости составила: 18 месяцев в группе 1; 24 месяца в группе 2. Двухлетняя БРВ составила 36,8% и 52,6% соответственно. Различия продемонстрировали статистическую значимость (log-rank p=0,037).

Заключение.Метапластический тройной негативный рак молочной железы характеризуется ограниченной чувствительностью к стандартной антрациклин-таксановой НПХТ. Включение производных платины в неоадъювантные режимы сопровождается достоверным увеличением частоты патологического полного ответа и улучшением показателей безрецидивной выживаемости при приемлемом профиле токсичности.

Особенности ответа на неоадъювантную химиотерапию у больных с агрессивными биологическими подтипами рака молочной железы II–III стадий

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Цель. Проанализировать ответ опухоли на НАХТ при агрессивных биологических подтипах рака молочной железы (РМЖ) II–III стадии с учетом современных систем оценки остаточной патоморфологической стадии и остаточной опухолевой нагрузки по системе RCB.

Материалы и методы. В анализ включено 172 пациентки, которые получили лечения в РС- НПМЦОиР за период с 2019 по 2023г, с диагнозом РМЖ II–III стадий с агрессивными биологическими подтипами опухоли (тройным негативным — 34,3%, HER2+ раком — 28,5%, люминальным B HER2- негативным РМЖ — 37,2%). Медиана возраста пациенток — 47 лет (24–81 года); преобладал размер опухоли cT2 (65,1%), поражение регионарных лимфоузлов имели 69,8%; степень злокачественности G3–62,8%, Ki67≥30% выявлен в 90,7% случаев.

Результаты. Полный патоморфологический ответ (отсутствие остаточной инвазивной опухоли в молочной железе или регионарных лимфоузлах — tpCR) был отмечен у 69 из 172 больных (40,1%), что соответствовало морфологической стадии ypT0N0 и классу RCB-0. Частота достижения tpCR была максимальна при HER2+ раке (63% — при нелюминальном HER2+ подтипе и 59,1% — при люминальном HER2+ РМЖ) и при тройном негативном варианте заболевания — 50,8%. При этом, у пациенток с люминальным HER2- негативным РМЖ частота достижения tpCR составила всего 15,6%, p<0,0001. Распределение классов RCB в общей группе составило 6,4% (RCB-I), 30,2% (RCB-II) и 23,3% (RCB-III) и значимо разнилось между биологическими подтипами. Пациентки с люминальным B HER2- негативным РМЖ имели в большинстве случаев остаточную опухолевую нагрузку, соответствующую классу RCB-II и RCB-III — в 39,1% и 37,5% случаев, соответственно, p<0,0001.

Заключения. Пациенты с агрессивными биологическими подтипами РМЖ имеют не только значимые различия в частоте достижения полного патоморфологического ответа на НПХТ, но и существенные особенности в распределении классов остаточной опухолевой нагрузки, что может отразиться на дальнейшем прогнозе заболевания.

Опыт реконструктивных операций у больных раком молочной железы: ближайшие и отдалённые результаты

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Цель. Оценить ближайшие и отдалённые результаты реконструктивных операций у больных раком молочной железы, а также проанализировать частоту послеоперационных осложнений и онкологическую безопасность выполненных вмешательств.

Материалы и методы. Критериями отбора больных на вмешательства являлась стадия болезни и эффективность неоадьювантной терапии. В большинстве случаев

одномоментная реконструкция выполнялась аутотканями (ТДЛ - 96 и TRAM - 12). У двоих пациенток одномоментная реконструкция была выполнена имплантом. Пациентки были разделены на группы по методу реконструкции: 1. Аутологичная реконструкция (n=108): ТДЛ-лоскут — 96 (77,4%), TRAM-лоскут — 12 (9,7%). 2.Эндопротезирование (n=16): одномоментная реконструкция — 2, отсроченная двухэтапная (экспандер-имплант) — 14.

Результаты. Анализ показал, что в постреабилитационный период на фоне длительного безрецидива у больных возрастает интерес к восстановлению утраченной железы. Так, с 2-х летним безрецидивным периодом оперативные вмешательства выполнены у 10 пациенток, с трехлетним - у 25, с пятилетним и более у 1 пациентки. После трехлетнего периода интерес падает, видимо, в силу привыкания к своему состоянию пациенток. Все отсроченные операции выполнены в период с 2014 по 2026 гг. Стадии у этих пациенток варьировались до четвертой (1 пациентка с четвёртой стадией). Все операции у этих больных выполнялись 2-х этапно с применением экспандера с последующей заменой на имплант. В группе аутотканей (ТДЛ и TRAM) превалировали такие осложнения, как частичный некроз жировой клетчатки, асимметрия и послеоперационная деформация, что в ряде случаев приводило к неудовлетворенности психологическим состоянием. В группе эндопротезирования (n=16) выявлены специфические осложнения: - миграция (мальпозиция) импланта — 1 случай. - инфекционные осложнения с последующей капсулярной контрактурой — 2 случая. - протрузия (пролапс) экспандера/импланта — 2 случая. - ригидность капсулы, потребовавшая капсулотомии для продолжения дерматензии — 1 случай.

Выводы. 1.Аутологичная реконструкция остается основным методом (87,1%), однако требует прецизионной техники для профилактики некрозов. 2.Двухэтапная реконструкция с экспандером является методом выбора при отсроченном восстановлении, но сопряжена с риском мальпозиции и контрактуры. 3.Оптимальным сроком для отсроченной реабилитации является период до 3-х лет после радикального лечения.

Анализ роли половых гормонов и HER2/neu при инфильтрирующемраке молочной железы

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Актуальность. Инфильтрирующий рак молочной железы (ИРМЖ) остаётся одной из ведущих проблем современной онкологии. Определение биологических характеристик опухоли и факторов лимфогенного метастазирования имеет принципиальное значение для прогноза и выбора тактики лечения.

Цель исследования. Оценить экспрессию рецепторов к эстрогену (ER), прогестерону (PR) и HER2/neu с учётом менструального статуса пациенток и их прогностическую значимость при ИРМЖ.

Материалы и методы. Проанализированы архивные биоптаты опухолевой ткани 128 пациенток. Гистологическая верификация проводилась согласно классификации ВОЗ (2003). Изучались морфологические особенности опухоли, состояние аксиллярных лимфатических узлов, а также показатели ER, PR и HER2/neu методом иммуногистохимии.

Результаты. У пациенток с сохранённой менструальной функцией при наличии лимфогенных метастазов выявлялась более высокая экспрессия ER ($p<0,05$). В группе пациенток в менопаузе достоверной связи не установлено. Экспрессия PR не показала статистически значимой зависимости от наличия лимфогенных метастазов. Статус

HER2/neu также не продемонстрировал достоверной корреляции с поражением лимфатических узлов ($p>0,05$).

Выводы. Экспрессия ER может иметь прогностическое значение у пациенток с сохранённой менструальной функцией. PR и HER2/neu в данном исследовании не подтвердили самостоятельной связи с лимфогенным метастазированием. Полученные данные подчёркивают необходимость персонализированного подхода к терапии ИРМЖ.

Исследование плотности сосудов при инфильтрирующем раке молочной железы

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Цель исследования. Совершенствование методов ранней диагностики и прогнозирования инфильтрирующего рака молочной железы (ИРМЖ) путем изучения морфологических особенностей ангиогенеза и плотности микрососудов.

Материал и методы. Исследован архивный материал отделения патоморфологии – ткань опухоли с окружающей клетчаткой. Образцы фиксировали в 10% нейтральном формалине, проводили по стандартной методике с заливкой в парафин. Срезы толщиной 3-4 мкм окрашивали гематоксилином и эозином. Препараты изучали с помощью микроскопа Optika B-350 с видеокамерой DCM500. Проведен анализ 200 полей зрения при увеличении 20×10 (площадь поля 0,74 мм²).

Результаты. Выявлены характерные морфологические особенности сосудов в ткани ИРМЖ: хаотичное и беспорядочное расположение, извилистость, формирование сосудистых колец, патологических перемычек, аномальных артериовенозных шунтов и сосудистых лакун. Калибр сосудов вариабелен – от выраженной дилатации до резкого сужения с чередованием расширенных и суженных фрагментов. Стенки истончены, часто имеют незавершенное строение. Эндотелиальные клетки расположены нерегулярно, отличаются неправильной формой, наличием цитоплазматических выростов и структурных нарушений. Клетки слабо связаны между собой, наслаиваются друг на друга, выступают в просвет или располагаются периваскулярно. Для опухолевых сосудов характерна повышенная проницаемость, играющая важную роль в формировании стромы и активации ангиогенеза. Исследование показало, что ИРМЖ характеризуется высоким удельным весом и количеством микрососудов в поле зрения площадью 0,75 мм². Наибольший показатель плотности микрососудов выявлен при анализе 200 полей зрения.

Выводы. Высокая плотность микрососудов в ткани ИРМЖ коррелирует с агрессивным течением заболевания. Выявленные структурные аномалии сосудистого русла (незавершенное строение стенок, хаотичное расположение, патологические шунты) могут служить дополнительными морфологическими критериями прогноза. Оценка плотности микрососудов и характера ангиогенеза перспективна для совершенствования диагностики и прогнозирования ИРМЖ.

Морфологическая прогрессия фоновых процессов при неоплазиях добавочной доли молочной железы и их связь с инвазивным потенциалом

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Цель исследования. Провести сравнительный анализ распространённости фоновых морфологических процессов при дисплазии и различных стадиях карцином дополнительной молочной железы и оценить их связь с инвазивным потенциалом.

Материалы и методы. В исследование включено 182 случая: дисплазия — 62, интрадуктальная карцинома — 71, интралобулярная карцинома — 28, микроинвазивный рак — 21. Морфологическая оценка проводилась на препаратах, окрашенных гематоксилином и эозином. Анализировались следующие показатели: распространённость нормального эпителия; аденоз; дисплазия 1–2 степени; апокриновая метаплазия; воспалительный компонент. Проведён сравнительный анализ частоты указанных изменений на различных этапах неопластической прогрессии.

Результаты. Распространённость нормального эпителия составила 93,6% при дисплазии, 78,9% при интрадуктальной карциноме, 92,9% при интралобулярной карциноме и 80,9% при микроинвазивном раке. Частота аденоза при дисплазии достигала 80,7%, тогда как при микроинвазивном раке снижалась до 47,6%, что свидетельствует о тенденции редукции пренеопластического субстрата по мере прогрессирования опухолевого процесса. Дисплазия 1–2 степени наиболее часто выявлялась при интрадуктальной (67,6%) и интралобулярной (75%) карциномах, что подтверждает её значимую роль на этапе intraepithelial неоплазии. Апокриновая метаплазия регистрировалась в 32,3% случаев дисплазии и снижалась до 2% на стадии микроинвазии, что может отражать изменение направления эпителиальной дифференцировки при переходе к инвазивному росту. Воспалительный компонент выявлялся только при интралобулярной (7,1%) и микроинвазивной (4,8%) стадиях, что позволяет предположить участие стромально-эпителиальных взаимодействий в формировании микроинвазии.

Заключение. Фоновые морфологические процессы при неоплазиях дополнительной молочной железы демонстрируют закономерную перестройку в ходе неопластической прогрессии. Аденоз и дисплазия низкой степени выступают в качестве пренеопластического субстрата, тогда как апокриновая метаплазия характеризуется тенденцией к редукции при переходе к инвазивной стадии. Появление воспалительного компонента на этапах инвазии может рассматриваться как дополнительный морфогенетический фактор формирования инвазивного потенциала. Полученные данные имеют значение для морфологического прогнозирования инвазивной трансформации при неоплазиях дополнительной молочной железы.

Генетические изменения в вкДНК при раке молочной железы у женщин молодого возраста

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Актуальность. Рак молочной железы (РМЖ) является наиболее распространённым злокачественным новообразованием у женщин и занимает первое место в структуре онкологической заболеваемости. Несмотря на то что пик заболеваемости приходится на возраст 55–65 лет, в последние годы отмечается рост числа случаев среди молодых женщин, что характеризуется более агрессивным течением и неблагоприятным прогнозом. В связи с этим особую значимость приобретает поиск информативных молекулярных маркеров, в том числе внеклеточной ДНК (вкДНК), отражающей биологические особенности опухолевого процесса.

Цель исследования - изучить связь концентрации вкДНК с клинико-морфологическими характеристиками и рецепторным статусом у больных РМЖ молодого возраста.

Материалы и методы. В исследование включены 80 женщин с верифицированным диагнозом РМЖ в возрасте 30–35 лет (средний возраст 31,3±3,3 года). Образцы ДНК выделяли из плазмы периферической крови пациенток до начала химиотерапии и на этапах специального лечения. В контрольную группу вошли здоровые женщины.

Результаты. Установлено повышение концентрации вкДНК в возрастных группах 25–30 и 31–35 лет (249,3 и 261,2 нг/мл соответственно). Средний показатель составил 167,3 нг/мл. Достоверная связь выявлена между уровнем вкДНК и рецепторным статусом: при (RE-/ RP+) - 144,8 нг/мл и (RE-/RP-) - 193,4 нг/мл. Наибольшая концентрация отмечена при инвазивно-протоковом раке - 192,3 нг/мл. При стадиях IIb и IIIa показатели составили 173,5 и 228,7 нг/мл соответственно. При отрицательном статусе Her2/neu уровень вкДНК достигал 234,3 нг/мл. Повышение Ki-67 сопровождалось увеличением вкДНК при (RE+/ RP-) - 212,4 нг/ мл и (RE-/RP-) - 236,8 нг/мл.

Выводы. РМЖ у женщин до 35 лет характеризуется выраженной биологической агрессивностью, сопровождающейся повышением концентрации вкДНК. Показатели вкДНК зависят от рецепторного статуса, стадии и морфологического типа опухоли, что позволяет рассматривать данный маркер как перспективный инструмент ранней диагностики, стратификации риска и прогностической оценки течения заболевания.

ОНКОГИНЕКОЛОГИЯ

Tuxumdon o‘smalarida gistologik tiplar va yoshga bog‘liqlik tahlili

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Natijalar. Jami 27ta tuxumdon havfli o‘sma holati o‘rganildi. Yosh bo‘yicha taqsimot: ≤30 yosh – 5 (18.5%); 31–50 yosh – 13 (48.2%); ≥51 yosh – 9 (33.3%). Epitelial xavfli o‘smalar asosan ≥51 yosh guruhida ko’proq uchradi ($p<0.05$). Germinal o‘smalar ko‘proq ≤30 yoshda aniqlangan.

Munozara. Olingan natijalar shuni ko‘rsatadiki, ovarial o‘smalar ichida epitelial tur ustunlik qiladi. Yosh oshgani sari xavfli epitelial o‘smalar ko‘payadi. Yosh ayollarda esa germinal o‘smalar nisbatan ko‘proq uchraydi. Bu klinik va davolash taktikasini tanlashda muhim omil hisoblanadi.

Xulosa. 2025 yil davomida ovarial o‘smalar tuzilmasida epitelial neoplaziyalar ustunlik qilgani aniqlandi. Xavfli epitelial o‘smalar ko‘proq katta yosh guruhida uchrashi kuzatilib, yosh omili bilan gistologik tip o‘rtasida statistik jihatdan ahamiyatli bog‘liqlik qayd etildi. Olingan natijalar ovarial o‘smalarning morfologik tasnifi va erta diagnostikasi klinik prognozni baholash hamda davolash taktikasini belgilashda muhim ahamiyatga ega ekanligini ko‘rsatadi.

The role of interventional arterial embolization in bleeding from locally advanced cervical cancer

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Objectives: Locally advanced cervical cancer is frequently associated with severe vaginal bleeding resulting from tumor invasion of pelvic vessels and tumor necrosis. Such hemorrhage can lead to hemodynamic instability, significant anemia, and interruption or delay of planned oncological treatment. Rapid and effective control of bleeding is essential to stabilize patients and allow continuation of further therapy. Interventional arterial embolization has emerged as a minimally invasive and effective method for managing tumor-related bleeding. The aim of this study was to evaluate the clinical effectiveness and safety of selective arterial embolization in patients with bleeding caused by locally advanced cervical cancer.

Methods: In 2025-2026 years 19 patients with FIGO stage IIB–IVA cervical cancer presenting with acute or recurrent tumor-related bleeding were included in this study. After initial hemodynamic stabilization and diagnostic evaluation, selective pelvic angiography was performed. Embolization of the uterine arteries or branches of the internal iliac arteries was carried out using embolic materials such as polyvinyl alcohol particles or gelatin sponge. Treatment outcomes were evaluated based on successful bleeding control, stabilization of hemoglobin levels, requirement for blood transfusion, and procedure-related complications.

Results: Successful hemostasis was achieved in all 19 patients following interventional arterial embolization. Vaginal bleeding was rapidly controlled and hemodynamic stability was restored in all cases. Hemoglobin levels improved after treatment, reducing the need for urgent surgical intervention. The procedure allowed continuation of planned oncological therapy, including radiotherapy and chemoradiotherapy. Procedure-related complications were minimal and limited to mild transient pelvic pain and low-grade fever.

Conclusions: Selective arterial embolization is a safe, effective, and minimally invasive method for controlling severe bleeding in patients with locally advanced cervical cancer. The technique provides rapid hemostasis, stabilizes patients, and facilitates continuation of definitive oncological treatment.

The significance of studying the biochemical markers of ovarian tumors

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Objective. The aim of the study was to investigate the serum levels of interleukin-8, vitamin D, and magnesium in patients with ovarian tumors.

Methods. The study included blood samples from 25 patients with benign ovarian tumors and 35 patients with malignant ovarian tumors who were treated at the Oncology Clinic of

Azerbaijan Medical University. The research was carried out in the Research Laboratory of the Department of Biochemistry at AMU. The control group consisted of 15 apparently healthy individuals. Magnesium concentration was determined by a spectrophotometric method using reagent kits from Human (Germany) on SPEKOL-221 and HOSPITEX Diagnostics Mini SCREEN analyzers. Vitamin D levels were measured using Bioaktiva Diagnostic reagent kits with analysis performed on a STAT FAX-4700 analyzer. The concentration of interleukin-8 (IL-8) was determined by enzyme-linked immunosorbent assay (ELISA) using RD reagent kits.

Results. The study results showed that the serum vitamin D level in patients with ovarian tumors, compared with the control group (34.15±0.16 ng/mL), was decreased: in patients with benign tumors by 47% (23.18±1.07 ng/mL), and in patients with malignant tumors by 2.3 times (15.21±0.23 ng/mL). Magnesium concentration, compared with the control group (0.91±1.09 mmol/L), was reduced by 19% in patients with benign tumors (0.76±1.18 mmol/L), and by 47% in malignant tumors (0.62±2.84 mmol/L). According to statistical calculations, vitamin D levels in patients with oncological diseases of the reproductive organs decrease by 2.3 times. The study also established that the IL-8 concentration, compared with the control group (13.6±1.4 pg/mL), was increased by 50% in patients with benign tumors (20.8±1.34 pg/mL), and in primary malignant tumors it increased threefold in a statistically significant manner (39.5±1.26 pg/mL).

Conclusion. In ovarian tumors, decreased serum concentrations of magnesium and vitamin D are observed, whereas interleukin-8 levels are elevated. These changes are more pronounced in patients with malignant ovarian tumors.

The influence of comorbid diseases on the development of endometrial cancer

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Objective. To assess the prevalence of comorbid diseases in patients diagnosed with endometrial cancer (EC).

Materials and methods. The study materials consisted of outpatient records and medical histories of 80 patients diagnosed with stage I–IV endometrial cancer who were registered and received combined treatment at the Fergana regional branch of the Republican Specialized Scientific-Practical Medical Center of Oncology and Radiology between 2020 and 2023.

Results. In our study, we examined the presence of multiple comorbid conditions in patients with endometrial cancer. The findings showed that the majority of the 80 patients had metabolic syndrome. Specifically, 34 patients (42.5%) had grade I obesity, 9 patients (11.25%) had grade II obesity, and 1 patient (1.25%) had grade III obesity. In addition, 10 patients (12.5%) with endometrial cancer were diagnosed with type 2 diabetes mellitus. Arterial hypertension was identified as a comorbid condition in 37 patients (46.25%). There were also cases where more than one comorbid disease occurred simultaneously. In particular, 4 patients (4.87%) had both diabetes mellitus and arterial hypertension, 28 patients (35%) had arterial hypertension combined with obesity, and 5 patients (6.25%) had both diabetes mellitus and obesity as comorbidities. Furthermore, anemia was detected in 39 patients (48.75%), of whom 27 (33.75%) had grade I anemia and 12 (15%) had grade II anemia.

Conclusion. Based on the above findings, it should be emphasized that other diseases—particularly obesity, diabetes mellitus, arterial hypertension, and anemia—play a significant role in the development of endometrial cancer. Prevention and timely treatment of these extragenital conditions can significantly reduce the progression and incidence of endometrial cancer.

Immunoterapiya fonida tuxumdon saratoni bilan kasallangan bemorlarda immunitet tizimining xususiyatlari

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Maqsad: Immunoterapiya fonida tuxumdon saratoni (TS) bilan kasallangan birlamchi bemorlarda immunitet holatini o'rganish.

Materiallar va usullar. TS bilan kasallangan41ayol, an'anaviy kimyoterapiyadan(KT) so'ng va 2,5 hafta Derinat (RF)preparati ko'rinishidagi immunoterapiya qo'llanilgandan keyin tekshirildi. Bu guruhni nomi KT+IT. Taqqoslash guruhi xuddi shu yoshdagi 22 sog'lom ayollardan iborat. TS bemorlar kasallikning 3 va 4 bosqichlarida Tahlil tadqiqoti usullari majmuasi asosida taqdim etilgan.

Tadqiqot natijalari. Leykotsitlarning eng yuqori miqdori KT + ITdan keyin TS bilan kasallangan bemorlar guruhida va 6180yo190,8 kl/mkl ni tashkil etgan, leykotsitlarning eng past miqdori esa KT keyin TS xosdir. KT+ITdan keyin TS bemorlarda limfotsitlarning umumiy sonining ishonchli o'sishi kuzatildi. Limfotsitlarning eng ishonchli past qiymati davolash va KT oldin TS bilan kasallangan bemorlar guruhlarida kuzatilganligi aniqlandi. Shunday qilib, kimyoterapiyadan keyin TS bilan kasallangan bemorlar guruhida limfotsitlar darajasi 27,5yo1,7% ni tashkil etdi, kimyoterapiya + ITdan keyin esa - 37,3yo1,22%. Tahlil shuni ko'rsatdiki, kimyoterapiya kompleksidagi IT immunitet tizimining hujayra ko'rsatkichlarini sezilarli darajada yaxshilashga va ularni deyarli sog'lom odamlarning normativ ko'rsatkichlariga yaqinlashtirishga imkon beradi. Tahlil shuni ko'rsatdiki, KT keyin tuxumdon saratoni bilan kasallangan bemorlar guruhida CD3+CD4+ ekspressiyasi 20,3yo1,2% ni tashkil etdi, KT + ITdan keyin bemorlar guruhlarida esa - 31,6yo1,3%, deyarli sog'lom odamlar guruhida esa - 42,5yo1,4%. Sitotoksik CD3+CD8+T-limfotsitlar onkologik kasalliklar patogenezida muhim rol o'ynaydi. TS asosiy IgG, IgA, IgM zardob konsentratsiyalarini tahlil qilish shuni ko'rsatdiki, qon zardobidagi asosiy immunoglobulinlarning miqdori keng diapazonlarda o'zgarib turgan, bemorlar guruhida IgG zardobining eng yuqori miqdori davolash boshlanishidan oldin aniqlangan, eng past miqdori esa KT keyin bemorlar guruhida qayd etilgan.

Xulosa lar: Olingan natijalarni tahlil qilish immunitetning hujayra zvenosida yaqqol o'zgarishlarni aniqlashga imkon berdi, ular CD3+, CD3+CD4+ ekspressiyasining pasayishi, IRI, CD3+CD8+, CD16+ va SO20+ hujayralari ekspressiyasining oshishi bilan namoyon bo'ladi. Limfopeniya ko'pincha kimyoterapiya va nur terapiyasidan keyin xarakterlidir. IRIning susayishi T-hujayrali immunitet tanqisligining mavjudligi, T-yordamchilari/induktorlari sonining kamayishi hisobiga. T-tsitotoksik limfotsitlarning ko'payishi T-hujayrali immunitetning susayishi va hujayra darajasida tsitotoksik ta'sirning mavjudligidir.

Postoperative complications after surgical treatment of cervical cancer

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Tashkent State medical university To evaluate the incidence and severity of early and late postoperative complications in patients undergoing radical surgery for cervical cancer and to assess their impact on recurrence-free survival (RFS).

Materials and Methods. This retrospective study analyzed data from 70 patients in Republican Specialized Scientific and Practical Medical Center of Oncology and Radiology with stage II– III cervical cancer (FIGO IB2–IIIB) who underwent radical hysterectomy (Wertheim–Meigs procedure) with pelvic lymphadenectomy between 2020 and 2023. Patients were divided into two groups: Group 1 (n=35) — standard open radical hysterectomy; Group 2 (n=35) —

laparoscopic radical hysterectomy. Postoperative complications were graded according to the Clavien–Dindo classification. The median follow-up period was 30 months.

Results. The overall rate of postoperative complications was 40.0%. Complications occurred in 48.6% of patients in Group 1 and 31.4% in Group 2 (p=0.03). The most common early complications were: lymphorrhea — 15.7%; bladder dysfunction — 14.3%; wound infection — 10.0%. Severe complications (grade III–IV) were recorded in 14.3% of patients in Group 1 and 8.6% in Group 2 (p=0.16). Among late complications, lymphocele (12.9%) and chronic pelvic pain syndrome (8.6%) were predominant. Median recurrence-free survival was: 25 months in Group 1; 29 months in Group 2. The two-year recurrence-free survival rate was 60.0% and 71.4%, respectively (log-rank p=0.041). Patients who developed severe complications had a higher risk of recurrence (HR=1.7; p=0.028).

Conclusion. Radical surgery is an effective treatment for cervical cancer, although postoperative complications remain frequent. The laparoscopic approach is associated with fewer complications and faster recovery, while severe complications may negatively impact recurrence-free survival. Optimizing surgical technique and perioperative management is therefore essential to improve outcomes.

Evaluating the effectiveness of obtaining a morphological examination using laparosenthesis in late-stage ovarian cancer

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Research

Objective. To evaluate the effectiveness of laparocentesis and trocar biopsy in confirming a morphological diagnosis in patients with late-stage ovarian cancer who have contraindications for diagnostic laparotomy and laparoscopy.

Materials and methods. The study included 53 patients with stage III-IV ovarian cancer who applied to the Fergana regional branch of the Republican Specialized Scientific and Practical Medical Center of Oncology and Radiology during 2022-2025. All patients had limited access to diagnostic laparotomy and laparoscopy due to a severe general somatic condition, ascites, and comorbidities. Patients underwent laparosenthesis under local anesthesia, a single trocar was inserted into the abdominal cavity, and a biopsy of the tumor tissue was taken. The obtained materials were sent for histological examination. The average age of the patients was 52.3 years. Statistical analysis of the results was carried out on the basis of percentage indicators.

Results. According to the results of the study, it was possible to confirm the morphological diagnosis in 52 (98.1%) of 53 patients. In 1 case (1.9%), it was not possible to obtain a morphological conclusion due to insufficient biological material. Histological examination revealed mesothelioma in 3 (5.7%) patients, ovarian adenocarcinoma in 17 (32.7%), and papillary cystadenocarcinoma in 32 (61.6%). No serious complications were observed after the operation. At the same time, clinical improvement in the general condition of patients was noted due to the evacuation of ascites.

Conclusion. In cases where there are contraindications to invasive surgical methods for late-stage ovarian cancer, laparosenthesis and trocar biopsy are considered minimally invasive methods with high diagnostic effectiveness. This method allows for reliable confirmation of the morphological diagnosis and simultaneously ensures the effectiveness of symptomatic treatment.

Angiogenic remodeling and tumor progression in endometrial hyperplasia and carcinoma: prognostic implications of CD34 expression

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Aim. To evaluate angiogenic remodeling during the transition from endometrial hyperplasia to carcinoma and to determine the prognostic significance of CD34-defined microvessel density.

Materials and Methods. Histopathological specimens from 244 patients with abnormal uterine bleeding were analyzed, including simple hyperplasia, atypical hyperplasia, and endometrioid adenocarcinoma (G1–G3). CD34 immunohistochemical staining was performed in 30 representative, highly vascularized cases. Microvessel density (MVD) was quantified in high-power fields and correlated with tumor grade, architectural atypia, and invasive growth characteristics. Statistical analysis was conducted with significance set at $p<0.05$.

Results. Simple hyperplasia demonstrated low and uniformly distributed CD34-positive microvessels, reflecting physiologic angiogenesis. Atypical hyperplasia showed moderate endothelial proliferation and focal vascular remodeling, consistent with early neoplastic transformation. In G2–G3 endometrioid adenocarcinoma, MVD significantly increased (up to 30–40 vessels per HPF), accompanied by chaotic vascular architecture, stromal desmoplasia, and irregular endothelial proliferation. Elevated CD34 expression correlated with higher tumor grade and invasive growth patterns, indicating intensified tumor-associated angiogenesis and enhanced biological aggressiveness.

Conclusion. Progressive increase in CD34-defined microvessel density reflects dynamic angiogenic remodeling during endometrial carcinogenesis. Transition from hyperplasia to high-grade carcinoma is characterized by a shift from hormonally regulated vascular proliferation to autonomous tumor-driven neovascularization. Quantitative CD34 assessment therefore represents not merely a morphological parameter but a biologically meaningful indicator of tumor progression and invasive potential. Incorporation of angiogenic profiling into routine pathological evaluation may improve prognostic stratification and support individualized therapeutic decision-making in endometrial cancer management.

Impact of lymphadenectomy on treatment outcomes in advanced ovarian cancer

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Purpose. To evaluate the prognostic and therapeutic significance of pelvic and para-aortic lymphadenectomy in patients with advanced ovarian cancer and to determine its effect on survival outcomes depending on the completeness of cytoreductive surgery.

Materials and Methods: A retrospective analysis included patients with stage III–IV ovarian cancer who underwent combined treatment consisting of cytoreductive surgery and chemotherapy. Various surgical strategies were compared, including systematic, cytoreductive, and diagnostic lymphadenectomy, as well as standard surgery without lymph node removal. Clinical, morphological, and survival data were analyzed using statistical methods, and survival was assessed by Kaplan–Meier analysis. The frequency and localization of retroperitoneal lymph node metastases were evaluated according to anatomical levels.

Results: Histological examination revealed a markedly higher detection rate of metastatic lymph node involvement compared with preoperative imaging, indicating that surgical assessment remains the most reliable staging method. Metastases were most frequently identified in paraaortic lymph nodes. Systematic lymphadenectomy allowed more accurate determination of tumor dissemination and demonstrated prognostic value in patients who achieved complete or optimal cytoreduction. These patients showed improved overall survival compared with those who underwent standard surgery alone. However, extended lymphadenectomy was associated with increased perioperative complications and showed limited benefit when radical cytoreduction was not achieved.

Conclusion: Systematic lymphadenectomy is justified in selected patients with advanced ovarian cancer when complete cytoreduction is feasible, as it improves staging accuracy and may enhance survival outcomes. Surgical strategy should be individualized, balancing oncological benefit with potential operative morbidity.

Pathophysiological significance of CD34 expression in predicting complications after endometrial sampling

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Aim. To determine the pathophysiological and clinical significance of CD34 expression in assessing endometrial angiogenesis and predicting complications associated with different endometrial sampling techniques.

Materials and Methods. This study included 244 women presenting with abnormal uterine bleeding, endometrial hyperplasia, or suspected endometrial carcinoma. Patients were stratified into four groups: conventional diagnostic curettage (n=100), ultrasound-guided curettage (n=50), ultrasound-guided Pipelle biopsy (n=50), and Pipelle biopsy without ultrasound guidance (n=44). Immunohistochemical analysis of CD34 expression was performed in 30 cases characterized by increased vascularization using an automated staining system. Microvessel density (MVD) was quantified per high-power field and correlated with immediate and delayed post-procedural complications. Statistical analysis was conducted to evaluate intergroup differences ($p<0.05$ considered significant).

Results. Curettage-obtained specimens demonstrated significantly higher MVD (30–40 vessels per high-power field) with intense CD34 positivity, indicating pronounced vascular disruption during mechanical endometrial scraping. In contrast, Pipelle samples revealed lower MVD (10–15 vessels per field) and preserved vascular architecture. Severe pain occurred in 66.7% of patients after curettage compared to 4.3% following Pipelle biopsy ($p<0.001$). Heavy uterine bleeding was observed in 74% versus 2.1% of cases, respectively. Infectious complications were recorded in 19% of curettage cases and 4.3% of Pipelle cases. Psycho-emotional distress and fear of sexual activity were significantly more frequent in the curettage groups. No uterine perforations were detected.

Conclusion. Immunohistochemical evaluation of CD34 confirms that conventional curettage is associated with substantial vascular injury and a significantly higher complication rate.

Pipelle biopsy represents a minimally invasive and pathogenetically justified alternative that preserves microvascular integrity, reduces post-procedural morbidity, and improves patient safety. CD34 expression may serve as an objective biomarker for optimizing diagnostic strategies in endometrial pathology.

Bachadon bo'yni saratonini pilot skrining dasturida odam papillomavirusi musbat ayollarni qayta testlash natijalari tahlili

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Maqsad. Odam papillomavirusi (OPV) yuqori onkogen turlari persistentsiyasini aniqlash.

Materiallar va usullar. Islom taraqqiyot banki investitsiyalarining 2-bosqichini amalga oshirish doirasida 2021-2022 yillarda Toshkent viloyatining Chirchiq shahrida bachadon bo'yni saratonini skrining qilish bo'yicha pilot loyihaning birinchi bosqichidan so'ng 533 OPV musbat ayolni qayta testdan o'tkazish bo'yicha JSST bilan qo'shma loyiha. Tahlil Cepheid Gen Xpert tizimida o'tkazildi. Xpert OPV testi ikkita alohida aniqlash kanalida OPV 16 va OPV 18/45 turlarini va 11 ta boshqa yuqori xavfli virus turlarini (31, 33, 35, 39, 51, 52, 56, 58, 59, 66 va 68) birlashtirilgan natija sifatida aniqladi. Davom etuvchi virusga ega OPV-musbat ayollarda maqsadli biopsiya bilan yoki biopsiyasiz kolposkopiya triaj sifatida qo'llanildi.

Natijalar. Rejalashtirilgan 533 (100%) OPV testidan o'tgan ayollardan jami 409 (76,7%) testdan o'tkazildi, ulardan 108 tasi OPV-musbat (26,4%), 295 tasi OPV-manfiy (72,1%) edi. Kolposkopiya qamrovi 95% ni tashkil etdi. Patologik xulosa: CIN I - 14 (3.4%), CIN II - 2 (0.5%), CIN III - 5 (1.2%), Saraton in situ - 3 (0.7%), Invaziv bachadon bo'yni saratoni – 2 (0.5%).

Xulosa lar. Ayollarda yuqori onkogen OPV ning saqlanib qolishi bachadon bo'yni saratoni rivojlanishining asosiy sabablaridan biri bo'lib, bachadon bo'yni intraepitelial neoplaziyasi fonida yuzaga keladi, demak, OPV musbat ayollarni qayta testdan otkazish milliy skrining dasturiga kiritilishi maqsadga muvofiq bo'ladi.

Дифференциация ранних стадий рака шейки матки на основе радиомического анализа мультипараметрической магнитно-резонансной томографии

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Актуальность. Рак шейки матки остаётся одной из ведущих причин онкологической смертности среди женщин. Радиомический анализ данных магнитно-резонансной томографии повышает точность и объективность неинвазивной диагностики ранних стадий заболевания.

Цель исследования. Оценить возможности радиомического анализа МРТ-изображений для построения классификационных моделей, позволяющих дифференцировать ранние стадии рака шейки матки (IB и IIA).

Материалы и методы. В ретроспективное исследование включены 96 пациенток с раком шейки матки, которым была выполнена предоперационная МРТ в период с июня 2024 по март 2025 года. Пациентки были распределены методом стратифицированной случайной выборки на основную (n=70) и контрольную (n=26) группы. Радиомические признаки извлекались из объёма интереса (VOI), выделенного на T2-взвешенных изображениях и картах коэффициента диффузии (ADC).

Результаты. Перед оперативным лечением пациенткам выполнялась мультипараметрическая МРТ, включающая T1-взвешенные изображения (T1WI), T2-взвешенные изображения (T2WI), диффузионно-взвешенные изображения (DWI) и динамическое контрастное усиление (DCE). В качестве входных данных использовались сегментированные МРТ-изображения опухолей стадий IB и IIA. В ходе радиомического анализа были извлечены текстурные характеристики с применением различных фильтров. Снижение размерности признаков осуществлялось с использованием метода LASSO. Для построения моделей применялись алгоритмы машинного обучения: k-ближайших соседей (KNN), метод опорных векторов (SVM) и логистическая регрессия (LR). Всего было отобрано 27 радиомических признаков, включая 2 из T1WI, 5 из T2WI, 5 из DWI (b=50), 4 из DWI (b=800), 5 из DCE и 6 из ADC. Для каждого алгоритма машинного обучения были построены модели на основе шести последовательностей МРТ. Наиболее высокую диагностическую эффективность продемонстрировала модель, основанная на T2WI и построенная с использованием алгоритма SVM (AUC=0,915 для обучающей выборки и AUC=0,907 для тестовой выборки). Статистически значимых различий по возрасту, гистологическому типу опухоли, степени дифференцировки и статусу лимфатических узлов между стадиями выявлено не было (p>0,05).

Выводы. Результаты исследования свидетельствуют о том, что радиомический анализ МРТ позволяет получать количественные текстурные и статистические характеристики опухоли, которые могут использоваться для стадирования рака шейки матки.

Лазерная абляция при тотальном поражении вульвы у пациенток с VIN 3

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Цель. Оценить эффективность и безопасность лазерной абляции у пациенток с тотальным поражением вульвы при вульварной интраэпителиальной неоплазии высокой степени (VIN 3) и ВПЧ-ассоциированных поражениях как органосохраняющего метода лечения.

Методы. В отделении Онкогинекологии Национального Центра Онкологии проведено лечение 5 пациенток с тотальным поражением вульвы, включая VIN 3 и распространённые кондиломатозные поражения. Все пациентки были ВПЧ-положительными. Лечение выполнено методом лазерной абляции с использованием диодной лазерной системы LEONARDO®. Метод применялся как альтернатива радикальному хирургическому лечению с целью сохранения анатомии и функции вульвы. Оценивались переносимость процедуры, интра- и послеоперационные осложнения, а также течение раннего послеоперационного периода.

Результаты. Лазерная абляция была успешно выполнена во всех 5 случаях без интраоперационных осложнений. Достигнута адекватная деструкция патологических тканей при минимальном повреждении окружающих структур. Послеоперационный период протекал благоприятно, выраженный болевой синдром, инфекционные осложнения и нарушения заживления не отмечались. Все пациентки были рано активизированы, отмечено удовлетворительное косметическое и функциональное восстановление.

Заключение. Лазерная абляция с использованием диодной лазерной системы LEONARDO® является эффективным и безопасным органосохраняющим методом лечения пациенток с тотальным поражением вульвы при VIN 3 и ВПЧ-ассоциированных

поражениях. Метод позволяет избежать радикальных вмешательств и способствует улучшению качества жизни пациенток.

Особенности диагностики и тактики хирургического лечения доброкачественных образований яичников

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Актуальность. Проблемы, связанные с диагностикой и выбором тактики лечения образований яичников является актуальной, это напрямую связано в первую очередь с неуклонным ростом и распространенностью данной патологии, а также вызванными осложнениями которые влияют на репродуктивный потенциал.

Цель. Изучить особенности диагностики и тактики хирургического лечения опухолевидных образований яичников.

Материалы и методы. В исследование включены ретроспективные данные 136 больных в период с 2020 по 2025 года включительно.

Результаты исследования. Нами были проанализированы данные 136 больных с диагнозами кисты и опухолеподобные образования яичников. По данным наших исследований, наблюдались такие осложнения как апоплексия (разрыв) яичника (50% случаев), перекручивание ножки образования (3,6%) и перекручивание с некрозом (2,9%). Вышеуказанные случаи осложнения наблюдались в возрастной категории от 18 лет до 35 лет (93%). В большинстве случаев симптоматика проявлялась клиникой острого живота что, в первую очередь приводила к затруднению диагностики и в большинстве случаев протекало под маской клиники острого аппендицита. При неосложненном течении опухолей и опухолевидных образований яичников (43,5%), из жалоб как правило, отмечалась тазовая боль, нарушение ритма менструаций и/или увеличение размера живота. Боль проявлялась как малоинтенсивная и ноющая, так и сильная, приступообразная. Она чаще всего локализовалась внизу живота над лоном и в подвздошно-паховой области с иррадиацией в область поясницы, из анамнеза усиливалась при физической нагрузке. При больших объемах образованиях наблюдалось нарушение мочеиспускания и дефекации (2,9%). Оптимизация хирургической тактики при наличии образований яичников, является актуальной проблемой на сегодняшний день.

Выводы. В первую очередь диагностические трудности связанны с отсутствием характерных жалоб, бессимптомностью течения и сложностью гинекологического обследования особенно в детском возрасте, что приводит к поздней диагностике, отсутствию правильного и своевременного лечения и как следствие к возникновению осложнений, нередко отрицательно сказывающихся на репродуктивной функции в дальнейшем. Оптимизация хирургической тактики при наличии образований яичников, позволит сохранить овариальный резерв, данная проблема является актуальной на сегодняшний день при подборе оптимального подхода к тактике лечения.

Диагностическое и прогностическое значение кольпоскопии и проточной цитометрии при цервикальных интраэпителиальных неоплазиях

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Введение. Современная диагностика патологии шейки матки основана на применении высокоинформативных методов, среди которых ключевое значение имеют расширенная кольпоскопия и проточная цитометрия. Кольпоскопия позволяет выявлять патологические изменения эпителия, не всегда различимые при стандартном осмотре, тогда как проточная цитометрия обеспечивает количественную оценку поверхностных и внутриклеточных маркеров при различных степенях цервикальных интраэпителиальных неоплазий (CIN).

Цель исследования — анализ кольпоскопических и проточно-цитометрических характеристик, значимых для дифференциальной диагностики, оценки течения и прогноза CIN.

Материалы и методы. Проведён ретроспективный анализ данных 640 пациенток с патологией шейки матки, наблюдавшихся в Онкологической клинике Азербайджанского Медицинского Университета в 2020–2024 гг. Возраст пациентов варьировал от 21 до 70 лет. Диагностический алгоритм включал гинекологический осмотр, расширенную кольпоскопию, цитологические, гистологические исследования и проточную цитометрию.

Результаты и обсуждение. Анализ полученных данных показал, что CIN I–II степени преимущественно выявлялись у пациенток молодого возраста (21–40 лет), которые составили 57,27% от общего числа обследованных. В то же время CIN III степени чаще диагностировались у женщин более старшей возрастной группы (41–70 лет), что составило 60,6%. Кольпоскопически CIN I степени характеризовалась наличием мелкоточечных слегка приподнятых элементов, неравномерной мозаикой и признаками воспалительной трансформационной зоны в области передней губы шейки матки. При CIN II степени наблюдались более выраженные изменения в виде нерегулярной мозаики, располагающейся выше уровня слизистой оболочки, преимущественно в области задней губы наружного зева, с признаками грубой перестройки эпителия. Для CIN III степени были характерны обширные интенсивно ацетобелые участки с нерегулярной пунктуацией, грубая сосудистая картина, крупные железистые отверстия на фоне гиперемии, значительное увеличение межкапиллярных промежутков. По данным проточной цитометрии CIN I–II степени соответствовали диплоидным новообразованиям с преобладанием клеток в фазе G0, тогда как CIN III характеризовалась анеуплоидией с увеличением доли клеток в фазах S и G2+M и наличием анеуплоидных клеток ($p<0,05$).

Заключение. Проточная цитометрия обладает высокой диагностической и прогностической значимостью при CIN и может эффективно применяться для ранней диагностики, оценки прогноза и динамического мониторинга лечения.

Кольпоскопия и биопсия как ключевые методы скрининга и верификации рака шейки матки

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Введение. Рак шейки матки является одной из ведущих злокачественных опухолей женской репродуктивной системы. Рост заболеваемости среди женщин молодого и социально активного возраста подчёркивает актуальность проблемы. Эффективный скрининг и ранняя диагностика предраковых и инвазивных поражений шейки матки способствуют снижению смертности и улучшению результатов лечения. В клинической практике основными методами диагностики цервикальной патологии являются кольпоскопия и гистологическое исследование.

Цель исследования. Оценить диагностическую значимость кольпоскопии и биопсии при обследовании пациенток с подозрением на рак шейки матки.

Материалы и методы. Исследование проведено в Онкологической клинике Азербайджанского медицинского университета в 2024–2025 годах. В исследование включены 27 женщин, направленных на кольпоскопическое обследование. Всем пациенткам с подозрением на инвазивные поражения шейки матки выполнена расширенная кольпоскопия, после чего проведена прицельная биопсия шейки матки. Возраст пациенток варьировал от 35 до 66 лет.

Результаты и обсуждение. По данным кольпоскопического исследования поражения низкой степени выявлены у 7 (25,9%) пациенток, что отражает наличие начальных предраковых изменений эпителия шейки матки. Поражения высокой степени диагностированы у 15 (55,6%) обследованных, что указывает на преобладание клинически значимой цервикальной патологии. Признаки инвазивного рака при кольпоскопии выявлены у 5 (18,5%) пациенток, подтверждая высокую информативность метода. Гистопатологическое исследование показало наличие лёгкой дисплазии у 9 (34%) пациенток и дисплазии высокой степени у 16 (59%), что свидетельствует о высокой частоте предраковых состояний. У 2 (7%) пациенток диагностирована carcinoma in situ или инвазивная карцинома, что подчёркивает ключевую роль морфологической верификации диагноза. Анализ возрастных характеристик выявил, что поражения высокой степени чаще наблюдались у женщин 44–55 лет, что может быть связано с длительным воздействием онкогенных факторов и прогрессированием эпителиальных изменений с возрастом.

Заключение. Кольпоскопия является высокочувствительным методом скрининга цервикальной патологии, позволяющим своевременно выявлять подозрительные изменения. Совместное применение данных методов имеет решающее значение для точной оценки состояния шейки матки и выбора оптимальной тактики ведения пациенток. Их комплексное использование повышает эффективность скрининговых программ, улучшает раннее выявление заболевания и клинические исходы лечения у разных групп.

Ассоциация вируса папилломы человека и предопухолевых патологий шейки матки

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Цель исследования - изучить связь вируса папилломы человека (ВПЧ) с предопухолевыми патологиями шейки матки.

Материалы и методы. За период с 2016 по 2019 гг. в Национальном центре онкологии и гематологии МЗ Кыргызской Республики было обследовано 331 пациентка раком шейки матки с начальными формами (I, IIa) с помощью ПЦР.

Результаты исследования. Было обнаружено, что ВПЧ 16 типа был выявлен в 166 случаях (52,36%), ВПЧ 18 типа был обнаружен в 110 случаях (37,7%). В 7 случаях (2,2%) отмечалось положительное определение ВПЧ и 16 и 18 типов. В 41 случае ВПЧ не был обнаружен (12,93%). Таким образом, вирусы папилломы человека 16 и 18 типов были ответственны за 87,1% случаев начальных форм рака шейки матки или у 276 больных. В контрольной группе (n=200) лиц или абсолютно сексуально активных и здоровых лиц аналогичного возраста вирусы папилломы человека были обнаружены в 45 или 22,5% случаев. При этом 16 тип был обнаружен у 26 (13,0%), а 18 тип у 16. Сочетание обоих типов ВПЧ отмечалось у 3 женщин. В основной группе у 36% пациенток имелась вторая и 46% третья стадия интраэпителиальных поражений шейки матки. В 18% случаев была обнаружена карцинома ин ситу. Средний возраст пациенток в основной группе составил 40,2 ± 10,4 года и 41,3 ± 9,7 лет в контроле. То есть обе группы были сопоставимы по возрасту. Большинство случаев (обе группы) были из сельской местности (73%). При попарном сравнении (случай и контроль) статистической достоверности между ними не получено (кси-квадрат по Yates 0,350 и Pearson -0,273). Однако при сравнении числа случаев с предраком и контролем между городом и селом было обнаружено, что разность была статистически значимой (p <0,05).

Заключение. Нами было демонстрировано, что инфекция ВПЧ была очень значительным фактором риска, присутствуя в 91% случаев в основной группе, по сравнению с 36% в контрольной группе.

Опыт применения высокотехнологичной лапароскопической хирургии при раке тела матки и доброкачественных опухолях

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Цель исследования. Оценить эффективность, безопасность и клинические преимущества лапароскопической хирургии у пациенток с ранними стадиями рака тела матки и доброкачественными новообразованиями.

Материалы и методы. Проведен ретроспективный анализ результатов лечения 254 пациенток, оперированных в 2023–2025 гг. Из общего числа больных 52 (20,5%) пациентки имели рак тела матки I стадии, 202 (79,5%) — доброкачественные опухолевые заболевания

(миома матки, аденомиоз и др.). Всем выполнены операции лапароскопическим доступом с использованием современного эндовидеохирургического оборудования. Оценивались интраоперационные показатели, частота осложнений, продолжительность госпитализации и особенности послеоперационной реабилитации.

Результаты. Во всех 254 (100%) случаях оперативные вмешательства завершены лапароскопически без конверсии в лапаротомию. Интраоперационная кровопотеря была минимальной, случаев гемотрансфузии не зарегистрировано. Послеоперационные осложнения отсутствовали (0%). Отмечено сокращение сроков стационарного лечения и ранняя активизация пациенток. Болевой синдром в послеоперационном периоде был умеренным, что способствовало быстрому восстановлению трудоспособности. Дополнительными преимуществами метода являлись низкая травматичность, минимальный риск спаечного процесса и выраженный косметический эффект.

Заключение. Высокотехнологичная лапароскопическая хирургия при раннем раке тела матки (20,5%) и доброкачественных опухолях (79,5%) демонстрирует высокую клиническую эффективность и безопасность. Отсутствие осложнений (0%), минимальная инвазивность и ускоренная реабилитация подтверждают целесообразность широкого внедрения малоинвазивных технологий в практику онкогинекологии.

ОПУХОЛИ ГРУДНОЙ КЛЕТКИ И СРЕДОСТЕНИЯ

Optimization of Intensive Care in the Management of Chemotherapy-Related Complications of Lung Cancer at the Tashkent Regional Branch of the Oncology Center

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Objective To evaluate the effectiveness of an optimized intensive care protocol for managing chemotherapy-related complications in patients with lung cancer at the Tashkent Regional Branch of the Oncology Center.

Materials and Methods A retrospective analysis included 72 patients with histologically confirmed lung cancer who were admitted to the intensive care unit (ICU) due to chemotherapyassociated complications, including hematological toxicity, nephrotoxicity, hepatotoxicity, infectious complications, and electrolyte disturbances. The main group (n=38) was managed using an optimized protocol that incorporated early risk stratification, continuous monitoring of vital and laboratory parameters, individualized infusion therapy, timely antimicrobial treatment, correction of electrolyte imbalance, and nutritional support. The control group (n=34) received standard intensive care management. Outcomes assessed included ICU length of stay, incidence of multiple organ dysfunction syndrome (MODS), and in-hospital mortality. Statistical analysis was performed using Student's t-test and the chi-square test, with $p<0.05$ considered statistically significant.

Results Implementation of the optimized protocol resulted in a significant reduction in ICU length of stay (5.8±1.4 vs. 8.2±1.9 days, $p<0.05$). The incidence of MODS decreased from 29.4% to 15.8%, while mortality was reduced from 17.6% to 10.5%. Early correction of nephrotoxicity and electrolyte disturbances prevented progression of acute kidney injury in 63% of cases. Conclusions Optimization of intensive care management for chemotherapy-related complications in lung cancer patients improves clinical outcomes, reduces severe complications, and lowers mortality. The implementation of a structured monitoring and early intervention protocol is clinically justified and recommended for regional oncology centers.

Metastatik Küçük Hücreli Dışı Akciğer Kanserinde İmmunoterapi sonrası Akciğer İmmun Prognostik İndeksinin (LIPI) Genel Sağkalıma Etkisinin İncelenmesi –Retrospektif Tek Merkez Deneyimi

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Amaç: Metastatik küçük hücreli dışı akciğer kanserinde (KHDAK) immünoterapiler (İO) tedavinin temelini oluşturmakla birlikte, İO sırasında progresyon gelişen hastalarda sağkalım sonuçları hâlâ belirsizdir. İO başında LIPI'nin tedavi yanıtını öngörmede güçlü bir belirteç olduğu bilinmektedir; ancak İO sonrası prognostik rolü net değildir. Bu çalışmada, LIPI'nin İO sonrası progresyon gelişen hastalarda sağkalımı öngörme potansiyeli araştırılmıştır. Yöntem: Bu retrospektif çalışmada İO öncesi en az bir basamak kemoterapi almış ve 2.basamakta nivolumab alan metastatik küçük hücreli dışı akciğer kanseri tanılı 113 hasta dahil edildi. LIPI, derive nötrofil/lenfosit oranı (dNLR) ve laktat dehidrogenaz (LDH) düzeylerine göre üç alt gruba ayrıldı: dNLR ≤3 ve LDH normal üst sınırının (ULN) altında olanlar iyi, dNLR >3 veya LDH > ULN olanlar orta, dNLR >3 ve LDH > ULN olanlar ise kötü LIPI grubu olarak tanımlandı. LIPI grupları arasında sağkalım analizleri yapıldı. Sonuçlar: LIPI risk gruplarına göre medyan genel sağkalım, iyi risk grubunda 40,4 ay (%95 GA: 34,6–46,2), orta risk grubunda 24,9 ay (%95 GA: 19,1–30,8) ve kötü risk grubunda 17,5 ay (%95 GA: 11,7–23,2) olarak saptandı. Tüm hastalarda medyan genel sağkalım 28,0 ay (%95 GA: 19,2–36,8) olup, LIPI risk kategorisi kötüleştikçe sağkalımda azalma gözlendi (log-rank $p<0.001$). İO'ye bağlı progresyonsuz sağkalım harici genel sağkalımda LIPI risk kategorisi kötüleştikçe sağkalımda azalma gözlendi (log-rank $p=0.003$) ve LIPI risk gruplarına göre medyan sağkalım; iyi risk grubunda 28,1 ay (%95 GA: 19,8–36,4), orta risk grubunda 17,8 ay (%95 GA: 11,0–24,6) ve kötü risk grubunda 12,6 ay (%95 GA: 8,6–16,6) olarak saptandı. Tüm hastalarda medyan sağkalım 21,7 ay (%95 GA: 17,1–26,2) idi.

Sonuç: Bu çalışmada, LIPI'nin immünoterapi sonrası progresyon gelişen metastatik küçük hücreli dışı akciğer kanserli hastalarda genel sağkalım ve immünoterapi harici sağkalımı öngörmede prognostik bir role sahip olduğu gösterilmiştir. Bu bulguların doğrulanması ve klinik öneminin daha iyi ortaya konması için geniş hasta serilerinde çok merkezli prospektif çalışmalara ihtiyaç vardır.

Next-Generation Sequencing in Lung Cancer: Identifying Actionable Mutations and Co-Mutational Patterns in an Indian Cohort

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Objective: Aim of the study is to evaluate the spectrum of lung cancer subtypes undergoing next-generation sequencing (NGS), identify predominant histological groups, and characterize the mutational landscape, including common driver mutations (EGFR, ALK, MET, ROS1) and relevant co-mutation patterns such as TP53–EGFR and PIK3CA–KRAS.

Material and Methods: This retrospective study included 101 histologically confirmed lung cancer patients who underwent NGS testing between February 2022 and August 2025 at Sarvodaya Hospital and Research Centre, Faridabad. Clinical characteristics, specimen types, NGS panel selection, and detailed genomic profiles were analysed. The majority of samples were formalinfixed paraffin-embedded (FFPE) tissue specimens, and multigene panel testing was performed using standardized lung cancer–specific assays.

Results: Patients were predominantly aged 61–70 years (40.6%) with marked male predominance (82.2%). Lung adenocarcinoma constituted the majority of cases (73.3%), followed by squamous cell carcinoma (25.7%) and NET (1%). The Pulmo 20-gene panel was utilized in 79.2% of cases. EGFR mutations were detected in 18.5% of patients, closely followed by KRAS mutations (17.4%). TP53 mutations were observed in 12% of cases, often occurring as co-mutations with other driver genes. Additional actionable alterations included PIK3CA and ALK (7.6% each) and MET (6.5%). The identification of both common and low-frequency mutations highlights significant genomic heterogeneity within this cohort.

Conclusion: Comprehensive genomic profiling through NGS revealed a substantial burden of actionable mutations across lung cancer subtypes. The most predominant subtype was Adenocarcinoma. The common mutation driver was EGFR. Routine incorporation of NGS into clinical practice enables precise molecular stratification, supports targeted therapy selection, and strengthens the advancement of precision oncology in the Indian healthcare setting.

Bispecific Antibodies and ADCs in ICI-Resistant NSCLC: A Systematic Review of Optimal Sequencing and Toxicity Mitigation Strategies

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Purpose: The emergence of acquired or primary resistance to immune checkpoint inhibitors (ICIs) in advanced non-small cell lung cancer (NSCLC) represents a critical clinical challenge, as standard second-line therapies like docetaxel yield limited survival benefits. Macromolecular therapeutics, specifically antibody-drug conjugates (ADCs) and bispecific antibodies (BsAbs), have demonstrated potential to transform this treatment paradigm by localising cytotoxic payloads and enhancing tumour-specific immune responses.

Methods: Following PRISMA guidelines, a systematic review of the literature was conducted utilising databases such as PubMed, Cochrane and EMBASE. The review evaluated phase 2 and 3 clinical trials assessing ADCs (e.g., datopotamab deruxtecan, sacituzumab govitecan) and BsAbs (ivonescimab, amivantamab) in patients with advanced NSCLC who had progressed after immunotherapy.

Results: Clinical trial data indicates ADC monotherapy— agents targeting TROP2, HER2, and c-MET—achieves objective response rates (ORRs) approximating 34% to 55% in heavily pretreated populations, significantly outperforming historical docetaxel benchmarks. The integration of these agents introduces complex toxicity profiles, including interstitial lung disease (ILD) with deruxtecan-based ADCs, stomatitis, infusion-related reactions (IRRs), and severe dermatological complications, and hematologic or mucosal toxicities. The risk of pulmonary toxicity may be increased due to previous ICI exposure, requiring multidisciplinary care and early surveillance imaging.

Conclusion: Good use of ADCs and BsAbs in refractory NSCLC rely on biomarker selection and treatment sequencing. Clinicals should integrate toxicity mitigations, counting sectional doing and dose optimisation. Bispecific antibodies and antibody-drug conjugates have altered the management paradigm of advanced NSCLC, effectively dismantling the therapeutic stagnation that historically defined the post-ICI and post-TKI settings. Datopotamab deruxtecan show survival benefits in pretreated non-squamous NSCLC, trastuzumab deruxtecan provides durable control in HER2-mutant variants, and ivonescimab represents a paradigm-shifting, first-in-class advance with its dramatic PFS superiority over standard PD-1

blockade. Amivantamab has solidified its role as an indispensable foundational backbone in countering EGFR-TKI resistance through both monotherapy and rational combinations.

Effectiveness and Relevance of Whole-Body MSCT Angiography in Esophageal and Lung Cancer

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Esophageal and lung cancers rank among the leading causes of cancer-related mortality worldwide. According to the World Health Organization, lung cancer accounts for approximately 2.2 million new cases and 1.8 million deaths annually, while esophageal cancer accounts for more than 600,000 new cases and nearly 540,000 deaths. The disease is often diagnosed at stage III–IV, which significantly worsens the prognosis.

Objective: To evaluate the diagnostic effectiveness of whole-body MSCT angiography in staging esophageal and lung cancer and determining resectability.

Materials and Methods: The study included 87 patients with morphologically confirmed esophageal cancer and 255 patients with lung cancer treated in 2025 at RSS-PMC of O&R FRB. All patients underwent whole-body MSCT angiography with contrast enhancement in arterial and venous phases. The results were assessed according to the TNM classification and compared with surgical and histological findings. In esophageal cancer, stage distribution was as follows: I-b – 1 (1.15%), II-b – 35 (40.23%), III-b – 32 (36.78%), IV-b – 19 (21.84%). In lung cancer: I-b – 2 (0.78%), II-b – 63 (24.70%), III-b – 78 (30.59%), IV-b – 111 (43.59%).

Results: MSCT angiography demonstrated 85–95% sensitivity and 88–92% accuracy in detecting vascular invasion. Distant metastases (liver, adrenal glands, bones, brain) were identified in 20– 30% of patients, leading to changes in treatment strategy. In lung cancer, mediastinal vascular invasion was accurately assessed, while in esophageal cancer, invasion into the aorta and trachea was reliably determined. Compared with PET/CT, MSCT angiography is more affordable and widely available but has slightly lower sensitivity in detecting micrometastases.

Conclusion: Whole-body MSCT angiography demonstrates high effectiveness in comprehensive staging of esophageal and lung cancer and plays an important role in determining resectability and selecting optimal treatment strategies.

Akciğer Kanserinde Kemoterapinin Erken Dönemlerinde Gelişen Organ-Toksik Komplikasyonlar

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Amaç Akciğer kanseri hastalarında kemoterapinin erken dönemlerinde gelişen organ-toksik komplikasyonların sıklığını, klinik özelliklerini ve risk faktörlerini değerlendirmek.
Gereç ve Yöntem Çalışmaya histolojik olarak doğrulanmış akciğer kanseri tanısı alan ve platin bazlı kemoterapi uygulanan 68 hasta dahil edildi. Hastalar tedavinin ilk iki küründe prospektif olarak izlendi. Böbrek fonksiyonları (serum kreatinin, GFR), karaciğer enzimleri (ALT, AST, total bilirubin), hematolojik parametreler (hemoglobin, lökosit, nötrofil, trombosit) ve elektrolit düzeyleri tedavi öncesi ve her kür sonrası değerlendirildi. Toksisite derecelendirmesi CTCAE v5.0 kriterlerine göre yapıldı. İstatistiksel analiz Student t-testi ve ki-kare testi kullanılarak gerçekleştirildi ($p<0,05$).

Bulgular Erken dönem organ-toksik komplikasyonlar hastaların %44,1'inde saptandı. En sık görülen toksisite hematolojik olup (%29,4), bunu nefrotoksisite (%19,1) ve hepatotoksisite (%16,2) izledi. Nefrotoksisite özellikle sisplatin alan hastalarda anlamlı olarak daha yüksekti (p<0,05). 65 yaş üzerindeki hastalarda ve eşlik eden komorbiditesi bulunanlarda toksisite oranı daha yüksekti. Olguların büyük kısmında toksisite derece I–II seviyesinde olup uygun destek tedavisi ile geri dönüşümlü bulundu.
Sonuç Akciğer kanserinde kemoterapinin erken dönemlerinde organ-toksik komplikasyonlar sık görülmekte ancak çoğunlukla hafif ve geri dönüşümlüdür. Düzenli laboratuvar izlemi, erken tanı ve bireyselleştirilmiş destek tedavisi ciddi komplikasyonların önlenmesinde ve antitümör tedavinin sürekliliğinin sağlanmasında önemli rol oynamaktadır.

Тезисы

Algorithms of Intensive Care Management for Chemotherapy-Induced Hepatotoxicity in Lung Cancer Patients

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Objective. To develop and evaluate structured intensive care algorithms for the management of chemotherapy-induced hepatotoxicity in patients with lung cancer.

Materials and Methods. A prospective observational study included 58 patients with histologically confirmed lung cancer who developed signs of hepatotoxicity during systemic chemotherapy. Liver function tests (ALT, AST, total bilirubin, alkaline phosphatase), coagulation parameters, and serum albumin were monitored before each chemotherapy cycle and dynamically during treatment. Severity of hepatotoxicity was graded according to CTCAE v5.0 criteria. An intensive care algorithm was implemented, including: early detection of biochemical abnormalities; temporary modification or discontinuation of hepatotoxic agents; detoxification infusion therapy; correction of electrolyte and protein imbalance; administration of hepatoprotective agents; antioxidant therapy; and prevention of infectious complications. Outcomes were compared with retrospective data from 46 patients who had received standard supportive therapy. Statistical analysis was performed using Student's t-test and χ^2 test ($p<0.05$).

Results. Implementation of the algorithm led to earlier detection of grade I–II hepatotoxicity (72% vs. 48%). The progression to grade III toxicity decreased from 21.7% to 10.3%. Duration of elevated transaminases was significantly shorter in the algorithm group (6.1±1.3 vs. 9.4±1.8 days, $p<0.05$). Treatment interruption due to severe liver dysfunction decreased by 35%. No cases of acute liver failure were registered in the main group. Conclusions Structured intensive care algorithms for chemotherapy-induced hepatotoxicity in lung cancer patients improve early diagnosis, reduce severity of liver injury, and allow continuation of antitumor therapy. Implementation of standardized monitoring and timely correction strategies is clinically justified and recommended for oncology centers.

Тезислар

Intra arterial chemoinfusion into the bronchial arteries as a treatment option for locally advanced inoperable lung cancer

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Background: Lung cancer remains a pressing issue in modern clinical oncology worldwide. Approximately 60-70% of newly diagnosed lung cancers are inoperable, necessitating the search for alternative treatment methods, including drug therapy. However, the issue of sensitivity to existing treatment regimens remains a significant aspect and is a key factor determining survival and local control.
Objective of the study – The aim of the study was to evaluate the possibility of using intra-arterial methods for the treatment of inoperable locally advanced non-small cell lung cancer.

Methods: Between 2022 and 2024, all 52 patients aged 52 to 60 years received treatment. All patients had stage IIIa-IIIb disease (T3N0M0 – T2-3bN1M0). All patients had histologically confirmed non-small cell lung cancer at the time of primary or retreatment (relapse). Morphologically, lung adenocarcinoma was detected in 18 patients (28.1%), and squamous cell carcinoma in 46 patients (71.9%).All patients received intra-arterial chemotherapy into a branch of the bronchial artery according to the "TP" regimen (docetaxel 75 mg/m2 + cisplatin 75 mg/m2) at a standard therapeutic dose.

Results: Analysis of immediate treatment results showed the effectiveness of the technique in 52 patients (81.25%). Of the 64 patients, 34 (53.1%) had a clinical diagnosis of lung cancer after three courses of transarterial chemoinfusion using the Docetaxel + Cisplatin regimen, according to follow-up examination results partial regression of the process was noted, in 2 (3.1%) patients progression of the process was noted due to violation of the sexual interval due to the duration of recovery of blood parameters after a course of chemotherapy.

Conclusion: The use of minimally invasive interventional regional methods of treatment of primary non-small cell lung cancer demonstrates high overall efficacy, median survival within the framework of complex therapy and quality of life of patients. Key words: primary lung cancer, locally advanced inoperable lung cancer, transarterial chemotherapy.

Outcomes of immunotherapy in patients with metastatic non-small cell lung cancer harboring TP53 and KRAS G12V/G12D mutations

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Objective. Immunotherapy is a standard first-line treatment for metastatic non-small cell lung cancer (mNSCLC); however, clinical outcomes may vary according to tumor molecular characteristics. TP53 mutations are associated with increased tumor mutational burden and enhanced immunogenicity, while KRAS G12V/G12D mutations remain clinically relevant due to limited targeted treatment options. This study aimed to evaluate the efficacy of immunotherapy and to assess the clinical impact of TP53 and KRAS G12V/G12D mutations in mNSCLC.

Materials and methods. Forty-two patients with morphologically confirmed mNSCLC were

included. Molecular testing determined TP53 and KRAS mutation status. TP53 mutations were identified in 24 patients (57.1%), KRAS G12V/G12D mutations in 18 (42.9%), and KRAS/TP53 co-mutations in 11 (26.2%). All patients received anti–programmed death-1 (PD-1)–based immunotherapy, either alone or combined with chemotherapy. PD-L1 expression was assessed using tumor proportion score. Efficacy endpoints included objective response rate (ORR), median progression-free survival (PFS), and 1-year overall survival (OS).

Results. Overall ORR was 45.2%. TP53-mutant patients demonstrated higher ORR compared with TP53 wild-type patients (54.2% vs 33.3%, p=0.048) and longer median PFS (9.1 vs 5.8 months, p=0.04). In KRAS G12V/G12D-mutant patients, ORR was 38.9%. Notably, KRAS/TP53 co-mutated tumors showed ORR of 63.6%, median PFS of 10.4 months, and 1-year OS of 68.2%. Among patients with PD-L1 <1%, TP53-mutant tumors achieved ORR of 41.7%. Conclusions TP53 and KRAS G12V/G12D mutations are associated with differential clinical outcomes in mNSCLC treated with immunotherapy. Co-mutation status identified a subgroup with particularly favorable responses. These findings highlight the value of comprehensive molecular profiling alongside PD-L1 assessment in optimizing immunotherapy strategies.

Ko‘krak qafasi kompyuter tomografiyasi (KT) ning COVID 19 fonida o‘pka saratonining erta aniqlashdagi roli

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Maqsad. COVID-19 pandemiyasi davrida o‘tkazilgan ko‘krak qafasi kompyuter tomografiyasining (KT) o‘pka saratonini erta aniqlashdagi diagnostik rolini baholash. COVID-19 bilan bog‘liq o‘pka zararlanishlarini aniqlash maqsadida keng qo‘llanilgan KT tekshiruvlari natijasida tasodifiy ravishda aniqlangan shubhali o‘pka tugunlari va malign o‘zgarishlarning klinik ahamiyatini tahlil qilish ko‘zda tutiladi.

Material va usullari. Tadqiqot RIO va RIATM TVFda o‘tkazildi. Tadqiqotda COVID-19 infeksiyasiga shubha bilan (KT) tekshiruvidan o‘tgan 40–65 yosh o‘rtasida bo‘lgan 60 nafar bemor jalb qilindi. Ularning 31 nafari ayol va 29 nafari erkak bemorlar edi. Bu bemorlar hammasi (KT) va zarur hollarda biopsiya natijalari bilan baholandi.

Natijalar. COVID-19 infeksiyasiga shubha bilan ko‘krak qafasi kompyuter tomografiyasi (KT) tekshiruvidan o‘tgan 40–65 yosh oralig‘idagi jami 60 nafar bemor baholandi. COVID-19 infeksiyasiga shubha qilingan bemorlarda ko‘krak qafasi kompyuter tomografiyasi natijalari CO-RADS (COVID-19 Reporting and Data System) klassifikatsiyasi asosida baholandi. Natijalarga ko‘ra bemorlar quyidagicha taqsimlandi: CO-RADS 1 – 8 nafar bemor (13,3%), CO-RADS 2 – 10 nafar bemor (16,7%), CO-RADS 3 – 12 nafar bemor (20,0%), CO-RADS 4 – 15 nafar bemor (25,0%), CO-RADS 5 – 15 nafar bemor (25,0%). Bu tekshiruv jarayonida o‘pka saratoni 29 nafar erkak bemordan 5 tasida birinchi va ikkinchi bosqichi aniqlandi. Umumiy tadqiqot guruhi bo‘yicha o‘pka saratonini aniqlash darajasi 8,3% (5/60) ni tashkil qildi. Bosqichlar bo‘yicha taqsimot quyidagicha bo‘ldi: I bosqich – 2 nafar bemor (40,0%), 1- T1 N0 M0, T2a N0 M0; II bosqich – 3 nafar bemor (60,0%) 2- T1 N1 M0, T2 N1 M0, T2 N1 M0. Aniqlangan o‘pka saratoni holatlari quyidagicha bo‘ldi: 2 tasida chap o‘pkada: solitar tugun ≤2 sm, periferik joylashuv, spikulali chegaralar, mediastinal limfa tugunlari normal, limfa tugunlari normal. 3 nafarida o‘ng o‘pkada: solitar tugun bronxga yaqin, chegaralari noaniq, atrof to‘qimalarga invaziya yo‘q, mediastinal limfa tugunlari 2 sm gacha.

Xulosa. O‘pka saratonini erta bosqichlarda aniqlashda (KT) usuli yuqori malumot beradi, COVID 19 pandemiyasi o‘pkadagi saratonni skrenning aniqlashda ko‘makchi bo‘ldi.

Adjuvant therapy for lung adenocarcinoma: Effectiveness and impact on survival

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Relevance. Lung cancer remains one of the leading causes of death. Non-small cell lung cancer (NSCLC), including adenocarcinoma (AC), occurred in 80–85% of cases. Despite surgical treatment, the 5-year survival rate of patients remained low, justifying the need for adjuvant therapy.

Purpose. To evaluate the long-term results of various adjuvant therapy options (chemotherapy and radiation therapy) in 68 patients with stage I–IIIA lung adenocarcinoma. Research methods. Patients were divided into three groups: surgical treatment (n=24); Surgery + adjuvant radiation therapy (n=20); Surgery + adjuvant chemotherapy (n=24). Adjuvant chemotherapy was previously carried out according to the CAP, EP and PC regimens, and radiation therapy was used in a total dose of 40 Gy.

Results. Adjuvant chemotherapy improved 5-year overall survival in stage II–IIIA AK by 15% compared with surgical treatment (29.8% vs. 14.8%, p<0.05). In stage IIIA, chemotherapy increased 5-year survival by 17.2% (p<0.05). Radiation therapy increased 3-year survival in patients with stage IIIA by 28%, but had no significant effect on 5-year survival. Major adverse effects of chemotherapy previously included leukopenia (40.2%), granulocytopenia (59.7%), nausea and vomiting (32%), and alopecia (61%). The feasibility of chemotherapy was 21.6% due to toxicity, which previously emphasized the need to select a regimen with minimal side effects.

Conclusions. Adjuvant chemotherapy improved the 5-year survival of patients with stages II–IIIA of lung AK and was previously considered the standard of care. Adjuvant radiotherapy increased 3-year survival but had no effect on 5-year outcomes. Combination therapies have previously required further study to optimize therapeutic approaches and reduce toxicity.

Особенности осложнений химиотерапии рака лёгкого у пожилых пациентов

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Цель. Изучить частоту, структуру и клинические особенности осложнений химиотерапии рака лёгкого у пациентов пожилого возраста, а также определить факторы риска развития тяжёлых токсических реакций.

Материалы и методы. Проведён ретроспективный анализ 84 пациентов с морфологически подтверждённым раком лёгкого. В основную группу включены 46 больных в возрасте ≥65 лет, в группу сравнения — 38 пациентов среднего возраста. Все больные получали платиносодержащую химиотерапию. Оценивались гематологическая, нефро-, гепато- и кардиотоксичность по критериям CTCAE v5.0. Проводился мониторинг показателей крови, функции почек (креатинин, СКФ), печёночных ферментов (ALT, AST, билирубин), электролитов и ЭКГ. Статистическая обработка выполнена с использованием t-критерия Стьюдента и χ^2, различия считались значимыми при $p<0,05$.

Результаты. У пожилых пациентов осложнения зарегистрированы в 63,0% случаев, что достоверно выше по сравнению с группой среднего возраста (44,7%, $p<0,05$). Наиболее часто выявлялась гематологическая токсичность (41,3%), включая нейтропению III–IV степени у 17,4% больных. Нефротоксичность отмечена у 28,3% пожилых пациентов,

причём снижение СКФ более чем на 25% наблюдалось в 15,2% случаев. Гепатотоксичность диагностирована у 23,9%, преимущественно I–II степени. Кардиальные осложнения встречались реже (10,8%), однако чаще приводили к коррекции терапии. Выявлена корреляция между наличием коморбидной патологии (артериальная гипертензия, сахарный диабет, ХБП) и риском тяжёлой токсичности (r=0,46).

Выводы. У пациентов пожилого возраста осложнения химиотерапии рака лёгкого развиваются чаще и характеризуются большей выраженностью. Возрастные изменения фармакокинетики и сопутствующие заболевания являются значимыми факторами риска. Проведение гериатрической оценки, индивидуализация доз, интенсивный лабораторный мониторинг и своевременная поддерживающая терапия позволяют снизить частоту тяжёлых токсических реакций и повысить безопасность противоопухолевого лечения.

КОЛОРЕКТАЛЬНЫЙ РАК

Risk factors and revention of intestinal anastomotic leakage in colorectal surgery

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Objective: Anastomotic leakage (AL) remains one of the most serious complications following colorectal cancer surgery, significantly increasing postoperative morbidity, mortality, and length of hospital stay. The aim of this study was to identify major risk factors associated with intestinal anastomotic leakage and to evaluate preventive strategies that may reduce its incidence.

Materials and Methods: A retrospective analysis was performed on 325 patients who underwent colorectal resection with primary anastomosis for colorectal cancer between 2021 and 2025. Patient-related factors (age, body mass index, comorbidities), tumor characteristics, type and level of anastomosis, surgical approach, and perioperative management were analyzed. Anastomotic leakage was diagnosed based on clinical signs and confirmed by radiological findings. Statistical analysis was conducted to determine significant risk factors.

Results: Anastomotic leakage occurred in 37 patients (11.4%). Statistically significant risk factors included advanced age (>70 years), obesity, diabetes mellitus, low rectal anastomosis, inadequate tissue perfusion, and prolonged operative time ($p<0.05$). The use of preventive measures such as meticulous assessment of bowel perfusion, selective creation of diverting stomas in high-risk patients, and adherence to perioperative antibiotic prophylaxis was associated with a reduced incidence of leakage. Patients who developed AL had longer hospital stays and higher rates of re-intervention.

Conclusion: Intestinal anastomotic leakage is a multifactorial complication influenced by both patient-related and surgical factors. Early identification of high-risk patients, optimization of comorbid conditions, careful surgical technique, and appropriate preventive strategies can significantly reduce the incidence of anastomotic leakage. Incorporating these measures into routine colorectal surgical practice may improve postoperative outcomes and patient safety.

Surgical complications in patients receiving early adjuvant chemotherapy after colorectal cancer surgery

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Objective: Adjuvant chemotherapy is essential for improving oncological outcomes in colorectal cancer patients. However, the timing of chemotherapy initiation may influence postoperative surgical complications. This study aimed to evaluate the incidence and risk of surgical complications in patients who received early adjuvant chemotherapy after colorectal cancer surgery.

Materials and Methods: A retrospective analysis was conducted on 280 patients who underwent curative colorectal cancer surgery between 2020 and 2024. Patients were divided into two groups: those who started adjuvant chemotherapy within 4 weeks after surgery (early group) and those who started later or did not receive chemotherapy (control group). Postoperative surgical complications within 30 days were recorded and classified according to the Clavien– Dindo grading system. Risk factors including age, comorbidities (e.g., diabetes mellitus), type of surgery, nutritional status, and laboratory parameters (serum albumin, hemoglobin) were analyzed.

Results: Surgical complications occurred in 68 patients (24.3%). The early adjuvant chemotherapy group had a significantly higher complication rate compared to the control group (28.6% vs. 19.1%, $p<0.05$). The most frequent complications were surgical site infection, delayed wound healing, and anastomotic leakage. Early chemotherapy initiation, diabetes mellitus, and low serum albumin were significant risk factors for postoperative complications. Major complications (Clavien–Dindo grade III–IV) were more common in the early chemotherapy group, particularly among patients with poor nutritional status.

Conclusion: Early initiation of adjuvant chemotherapy after colorectal surgery is associated with an increased risk of postoperative surgical complications, especially in high-risk patients. Careful patient selection, optimization of nutritional and metabolic status, and appropriate timing of chemotherapy are essential to minimize surgical morbidity. A multidisciplinary approach is recommended to balance oncological benefits with surgical safety.

Xorazm viloyatida yo'g'on ichak saratoning birlamchi tarqalgan turlarida davolash usullarini takomillashtirish

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Maqsad. Birlamchi tarqalgan (IV bosqich) yo'g'on ichak saratonida davolashni shaxsiylashtirish orqali samaradorlikni oshirish va davolashdagi uzilishlarni kamaytirishga qaratilgan biomarkerga asoslangan hamda multidisiplinar (MDT) yondashuvni takomillashtirish. Material va usullar. Takomillashtirilgan algoritm quyidagi tamoyillarga asoslandi: (1) klinik stratifikatsiya (ECOG, metastaz yuklamasi va lokalizatsiyasi, asoratli birlamchi o'choq — obstruksiya/qon ketish/perforatsiya, rezektsiya imkoniyati); (2) majburiy molekulyar profil (NRAS, BRAF, MSI/dMMR; zaruratda HER2) va o'sma tomonlamaligini (chap/o'ng) inobatga olish; (3) MDT ishtirokida taktika tanlash (onkolog, koloproktolog, radiolog, patolog, gepatobiliar jarroh); (4) biomarkerga mos birinchi liniya sistem davolash: MSI-H/dMMR holatlarda immunoterapiya; RAS yovvoyi turi, ayniqsa chap tomonli o'choqda anti-EGFR + ikki komponentli kimyoterapiya; boshqa holatlarda

anti-VEGF + standart kimyoterapiya; (5) javob bo‘lganda konversiya konsepsiyasi asosida mahalliy nazorat usullarini qo‘shish (jigar metastazlari rezektsiyasi/ablatsiya, stereotaktik radioterapiya) va tanlangan bemorlarda peritoneal tarqalishda kombinatsiyalangan yondashuvni ko‘rib chiqish; (6) asoratlarni minimal invaziv boshqarish (stentlash yoki cheklangan palliyativ aralashuv) orqali sistem davolashni kechiktirmaslik.

Natijalar. Taklif etilgan yondashuv “to‘g‘ri bemorga — to‘g‘ri dori” tamoyili asosida davolashni yo‘naltirishga xizmat qiladi: biomarkerga mos terapiya ob’ektiv javob va kasallik nazoratini kuchaytiradi; konversiya davolash va mahalliy usullarni MDTda to‘g‘ri tanlash rezektsiya imkoniyatini kengaytiradi; asoratlarni minimal invaziv yechimlar bilan tez bartaraf etish kimyoterapiya boshlanishini kechiktirmaslikka yordam beradi. Natijada toksiklikni kamaytirish, hayot sifatini yaxshilash hamda umumiy va progressiyasiz yashash ko‘rsatkichlarini oshirishga sharoit yaratiladi.

Xulosa. Birlamchi tarqalgan yo‘g‘on ichak saratonida davolashni takomillashtirishning asosiy yo‘li — molekulyar stratifikatsiya (RAS/BRAF, MSI/dMMR) va o‘sma biologiyasiga mos shaxsiylashtirilgan sistem terapiyani MDT qarori asosida konversiya hamda mahalliy nazorat usullari bilan uyg‘unlashtirishdir. Ushbu yondashuv rezektsiya imkoniyatini oshirish, davolash uzilishlarini kamaytirish va klinik natijalarni yaxshilashga xizmat qiladi.

Classification and clinical presentation of colon cancer in a regional oncology department experience

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Aim. To assess the clinical forms and their manifestations in patients with colon cancer in the setting of an interregional oncology department, to identify the main clinical signs using the proposed classification of clinically manifest forms, and to optimize the diagnostic approach.

Methods. A retrospective analysis was performed on the archival materials of 148 patients with colon cancer who received inpatient treatment at the Interregional Oncology Department of the Central Hospital of Aghjabadi District between 2018 and 2023. Patients were evaluated according to the classification of clinically manifest forms (toxic and organ forms, their phases and stages).

Results. In 146 out of 148 patients (98.65%), the disease was detected in a clinically manifest form. The toxic form was observed in 61 patients (41.22%), and the organ form in 85 patients (57.43%). In the toxic form, the anemia phase was recorded in 42 patients (68.85%), and the intoxication phase in 19 patients (31.15%). In the organ form, intermittent intestinal obstruction was observed in 58 patients (68.23%), complete obstruction in 20 patients (23.53%), and the inflammation phase in 7 patients (8.24%). Only in 2 patients (1.35%) was the tumor incidentally detected in an asymptomatic form during screening endoscopic examination.

Conclusion. The study results show that the majority of patients with colon cancer (98.65%) are admitted in clinically manifest forms. The proposed classification accurately reflects the clinical manifestations and enables optimization of the diagnostic process in regional oncology departments.

Metastatik kolorektal rak (mKRK) bilan og‘rigan bemorlarda Lonsurf + bevatsizumab va FOLFIRINOX + bevatsizumab kombinatsiyalarining samaradorligi va xavfsizligini qiyosiy baholash

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Maqsad. Metastatik kolorektal rakning kechki davolash liniyalarida triflyuridin/tipirasil (Lonsurf) + bevatsizumab kombinatsiyasi bilan FOLFIRINOX + bevatsizumab rejimining samaradorligi va xavfsizligini solishtirish.

Materiallar va usullar. Retrospektiv tadqiqotga mKRK bilan og‘rigan 105 nafar bemor kiritildi: 50 nafari — Lonsurf + bevatsizumab, 55 nafari — FOLFIRINOX + bevatsizumab. Tahlil umumiy yashovchanlik (UY), progressiyasiz yashovchanlik (PY) va nojo‘ya ta’sirlar profilini o‘z ichiga oldi.

Natijalar. 12 oyda umumiy yashovchanlik Lonsurf + bevatsizumab guruhida yuqoriroq bo‘ldi — 52% ga qarshi 50%. Progressiyasiz yashovchanlik mos ravishda 30% va 32% ni tashkil etdi. Og‘ir nojo‘ya ta’sirlar (≥3 daraja) Lonsurf + bevatsizumab guruhidagi bemorlarning 12% ida va FOLFIRINOX + bevatsizumab guruhida 30% ida qayd etildi. Eng ko‘p uchragan nojo‘ya ta’sirlar neytropeniya, ko‘ngil aynishi va diareya bo‘lib, ular FOLFIRINOX + bevatsizumab guruhida ko‘proq kuzatildi.

Xulosa. Lonsurf + bevatsizumab kombinatsiyasi FOLFIRINOX + bevatsizumab bilan solishtirganda yuqoriroq umumiy yashovchanlikni, o‘xshash progressiyasiz yashovchanlikni va ancha qulay xavfsizlik profilini namoyish etadi, bu esa uni mKRK ning kechki davolash liniyalari uchun jozibador davolash varianti qiladi.

Clinical Outcomes of a Multimodal Approach in Locally Advanced Rectal Cancer

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Introduction: Locally advanced rectal cancer (LARC) remains one of the most challenging categories of malignant neoplasms in this anatomical region. According to recent epidemiological data, LARC is diagnosed in 21–38% of all rectal cancer cases. However, there is still no consensus regarding its precise definition, the optimal diagnostic and therapeutic strategies, or the criteria for evaluating treatment outcomes.

Aim: To improve treatment outcomes in locally advanced rectal cancer through individualized multimodal strategies.

Materials and Methods: From 2021 to 2025, a total of 924 patients with rectal cancer were treated at the Department of Coloproctology of the Republican Specialized Scientific and Practical Medical Center of Oncology and Radiology (RSSPMCOR). Among them, 197 patients (21.3%) were diagnosed with locally advanced rectal cancer. All patients underwent standard diagnostic evaluation, including mandatory pelvic MRI and, when feasible, PET-CT. The mean age of the patients was 61.9 ± 6.1 years, with females comprising 56.9% of cases. In 61.4% of patients, the tumor was located in the mid and lower ampullary regions. Histologically, mucin-producing adenocarcinoma was identified in 38.6% of cases. In 110 patients (55.8%),

complications of the local tumor process were noted, including: peritumoral infiltrate in 41 patients (13 of which with abscess formation); purulent-destructive complications (15 rectovesical and 11 rectovaginal fistulas); and intestinal obstruction in 43 patients.

Results: Patients were divided into three groups: Group I – 121 patients (61.4%) without severe complications and with preserved pelvic organ function. These patients received neoadjuvant chemoradiotherapy with capecitabine and a total radiation dose of 45–50 Gy, followed by radical surgery after 6–8 weeks. Group II – 58 patients (29.4%) with complicated disease course, including purulent-necrotic processes and bowel obstruction. Surgical treatment was performed first, followed by adjuvant therapy. Group III – 18 patients (9.1%) with disseminated metastatic disease (T4N1–2M1 hep/pulm), who received symptomatic therapy. Median survival in this group was 7.6 ± 3.3 months. The resectability rate in Group I was 84.3%, and 72.4% in Group II. R0 resection rates were 81.2% and 63.8%, respectively. Combined surgical procedures were performed in 69.4% of Group I patients and 82.7% of Group II. The most common combined interventions included: Bladder resection – 16 cases (8.12%), Supravaginal hysterectomy with adnexa – 14 cases (7.11%), Complex multiorgan resections – 11 cases (5.58%). Primary restoration of bowel continuity was achieved in 65.3% of Group I and 46.5% of Group II patients. Postoperative complications occurred in 15.7% and 20.7% of patients in Group I and II, respectively, with postoperative mortality rates of 2.48% and 6.89%. Adjuvant therapy was administered to 175 patients (88.8%) in Groups I and II. Chemotherapy regimens included: XELOX – 42.9% (demonstrated the best tolerability and disease control), FOLFOX-6 – 28.0%, XELIRI – 21.1%, PCT + CRT + PCT – 8.0%. The rate of locoregional recurrence was 4.95% in Group I and 9.72% in Group II; distant metastases were reported in 3.30% and 7.14%, respectively.

Conclusion: Locally advanced rectal cancer is characterized by a fixed, infiltrative tumor extending beyond the organ and invading adjacent structures. A multimodal, individualized approach, incorporating staged therapy and interdisciplinary collaboration, allows for high rates of radical resection, acceptable complication levels, and promising oncologic outcomes.

The role of copper and ceruloplasmin in the pathogenesis of colorectal cancer

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Objective. The aim of the study was to investigate the serum concentrations of copper and ceruloplasmin in patients with colorectal cancer and to assess their potential clinical significance.

Methods. The study included 18 patients aged 45–79 years with a verified diagnosis of colorectal cancer who were undergoing treatment at the Oncology Clinic of Azerbaijan Medical University. The control group consisted of 14 apparently healthy individuals. Serum concentrations of copper and ceruloplasmin were determined by spectrophotometric methods using standard laboratory analyzers.

Results. In recent years, copper has been regarded as an important trace element involved in carcinogenesis, including through the recently described mechanism of cuproptosis. However, the role of copper and copper-binding proteins in colorectal cancer remains insufficiently studied. In the serum of patients with colorectal cancer, a statistically significant increase in ceruloplasmin levels (47.51±2.35 mg%) was detected compared to the control group (7.32±2.14 mg%; p=0.008), exceeding normal values by 2.7 times. Copper concentration was also significantly elevated, reaching 38.19±1.16 µmol/L versus 16.54±1.48 µmol/L in the

control group (p<0.001). These findings indicate activation of copper-dependent metabolic processes in colorectal cancer. It is suggested that mutations in the KRAS oncogene, identified in approximately 40% of patients, enhance copper uptake by tumor cells, thereby promoting angiogenesis and tumor progression. Ceruloplasmin, being the main copper transport protein, may further stimulate neoangiogenesis, oxidative processes, and inhibit ferroptosis, creating a favorable microenvironment for tumor growth and metastasis.

Conclusion. Elevated concentrations of copper and ceruloplasmin confirm their significant role in the pathogenesis of colorectal cancer and highlight their potential use as prognostic and auxiliary biomarkers in assessing disease progression and selecting therapeutic strategies.

Comparative Outcomes of Combined Organ-Preserving and Standard Surgical Treatment in Rectal Cancer with Pelvic Organ Invasion

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Introduction: Management of rectal cancer invading female reproductive organs remains controversial. While radical surgery ensures oncological radicality, it may negatively affect quality of life. Organ-preserving strategies have emerged as a potential alternative.

Objective: To compare clinical and oncological outcomes of organ-preserving versus standard surgical treatment in patients with locally advanced rectal cancer.

Materials and Methods: A total of 134 patients with T4 rectal cancer without distant metastases were analyzed. Diagnostic methods included colonoscopy, CT, transrectal ultrasound, and hysteroscopy.

Surgical treatment included: Abdominoperineal resection – 48.5% Hartmann's procedure – 23.1% Abdominoperineal resection with anastomosis – 17.9% Anterior resection – 10.4% All patients underwent lymph node dissection (D1–D2).

Results: Combined organ-preserving procedures included vaginal resection (56.3%), adnexectomy (18.8%), and supravaginal hysterectomy (14.1%). In the control group, 100% of patients underwent hysterectomy with adnexa. Postoperative complication rates were similar (18.8% vs 17.1%), with slightly lower mortality in the organ-preserving group (3.1% vs 4.3%). Long- term outcomes showed no significant difference in recurrence (28.1% vs 24.3%) or 5-year survival (46.5% vs 47.8%). Notably, organ-preserving surgery contributed to better preservation of endocrine function, which positively influenced patients' psychosocial status.

Conclusion: Organ-preserving surgical treatment is a feasible and effective alternative to radical surgery in selected patients with rectal cancer invading reproductive organs. It ensures comparable oncological outcomes while offering improved functional and quality-of-life benefits.

Organ-Preserving Surgical Treatment of Locally Advanced Rectal Cancer with Invasion into Female Reproductive Organs

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Introduction: Locally advanced rectal cancer (LARC) with invasion into adjacent pelvic organs remains a major surgical challenge. Standard treatment often involves radical procedures such as hysterectomy with adnexa, which may significantly impair hormonal status and quality of life.

Objective: To evaluate the effectiveness and safety of organ-preserving surgical approaches in patients with LARC invading female reproductive organs.

Materials and Methods: A retrospective analysis included 134 female patients with rectal cancer invading reproductive organs, treated between 2008 and 2014. The mean age was 47.2±5.8 years. All patients had histologically confirmed adenocarcinoma, with 50.7% staged as T4N1M0. Patients were divided into two groups: Group I (n=64): organ-preserving combined surgery Group II (n=70): standard surgery (hysterectomy with adnexa)

Results: Tumor invasion most frequently involved the vagina (56.0%), followed by adnexa (18.6%) and uterus (13.4%). Postoperative complications occurred in 18.8% of patients in Group I and 17.1% in Group II. Mortality rates were 3.1% and 4.3%, respectively. Recurrence rates were comparable: 28.1% in Group I versus 24.3% in Group II (P=0.034). The 5-year survival rates were also similar (46.5±9.4% vs 47.8±8.2%, P=0.028). Importantly, organ-preserving surgery allowed better maintenance of hormonal function, with preservation of estradiol and progesterone levels.

Conclusion: Organ-preserving combined surgical approaches in LARC with invasion into female reproductive organs are oncologically safe and do not compromise survival outcomes compared to radical surgery. Additionally, they provide significant advantages in preserving hormonal status and improving quality of life.

Laparoscopic surgery in patients with rectal cancer

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Materials and Methods. The analysis included 92 patients with rectal cancer who underwent sphincter-preserving laparoscopic surgery (laparoscopic rectal resection and laparoscopic abdominoperineal resection with sphincter preservation) at the Republican Specialized Scientific and Practical Medical Center of Oncology and Radiology from 2020 to 2025. The patients' age ranged from 25 to 75 years. There were 38 men and 54 women. The majority of patients (73%) had stage III disease, while the remaining patients had stage II disease. The main histological type of tumor was adenocarcinoma with various degrees of differentiation.

Results. Laparoscopic rectal resection was performed in 51 patients. Colorectal anastomosis was created in 24 patients (47%) using circular staplers in an end-to-end fashion, and in

27 patients (53%) using linear staplers in a side-to-side fashion. In one patient (1.9%), the postoperative period was complicated by anastomotic leakage on the 7th postoperative day. A double-barrel transverse colostomy was performed, and conservative therapy was effective. The incidence of anastomositis was 3.5%. Laparoscopic abdomino-anal rectal resection with primary coloanal anastomosis was performed in 49 patients. The postoperative period was complicated by surgical site infection in 4 patients (4.3%) and by rectovaginal fistula formation in 1 patient (1.4%). A double-barrel transverse colostomy was performed in one patient. In 2 cases (4.1%), suppuration of the presacral space was observed. Urological complications occurred in 11 patients (21%). One patient died due to pulmonary embolism. The recurrence rate after sphincter-preserving surgery was 2.5%.

Совершенствование персонализированного подхода лечения путем изучения молекулярно – генетического профиля опухоли пациентов колоректальным раком в казахстанской популяции

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Цель: Оптимизация персонифицированных подходов терапии больных колоректальным раком с учетом молекулярно – генетических маркеров.

Материалы и методы: 500 пациентов с гистологически верифицированным КРР. **Лабораторный метод:** проведение ИГХ-исследований биопсий (n=500) в центре патоморфологических исследований КазНИИОиР; Проведение ПЦР диагностики (ПЦР REAL TIME PCR SYSTEM TIANLONG) для установления или исключения ложноположительных или ложноотрицательных результатов в центре молекулярно-генетических исследований Каз- НИИОиР; Анализ и статистическая обработка полученных результатов будет проведен с использованием специализированного программного обеспечения для проведения статистических исследований SPSS 23.0.

Результаты: В исследование были включены 500 пациентов с колоректальным раком, проходивших обследование и лечение в период 2019–2023гг. Среди них преобладали женщины — 57,0%, мужчин было 43,0%. Наиболее часто заболевание диагностировалось на II стадии (44,5%), далее следовали III стадия (30,5%), IV стадия (21%) и I стадия (4%). Основным гистологическим типом опухоли являлась аденокарцинома, при этом преобладали умеренно дифференцированные опухоли (G2-81,5%). Анализ микросателлитной нестабильности показал, что MSI-low выявлен у 56% пациентов, MSI-stable — у 40,5% пациента тогда как MSI-high встречался значительно реже — у 7 пациентов (3,5%). У пациентов с неметастатическим колоректальным раком медиана безрецидивного периода составила 24,2 месяца при MSI-high, 20,1 месяца при MSI-stable и 16,8 месяца при MSI-low, что указывает на более благоприятное течение заболевания при MSI-high статусе.

Выводы: изучена частота встречаемости MSI high -3,5%, MSI low-56% у пациентов с КРР в казахстанской популяции; MSS чаще встречается у мужчин (65,2%) в то время как MSI high и low чаще встречается у женщин (54,6%); MSI low и high чаще встречаются у пациентов в возрасте от 18 до 50 лет (78,2%); MSS чаще встречается при локализации опухоли в левых отделах кишечника (18,7%), а также в прямой кишке (21,8%); MSI low наибольший БРП составил 90 мес., MSI stable наибольший БРП составил 45 мес., MSI high наибольший БРП составил 14 мес.; все пациенты со статусом MSI high завершили терапию и находятся под наблюдением; у 3 пациентов выявлен синдром Линча.

Clinical impact of microsatellite instability and timing of immunotherapy in metastatic colorectal cancer: real-world data from Azerbaijan

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Relevance. Colorectal cancer remains one of the leading oncological diseases in Azerbaijan, with a substantial proportion of patients diagnosed at metastatic stages. Microsatellite instability (MSI-H/dMMR) is a validated predictive biomarker of response to immune checkpoint inhibitors in metastatic colorectal cancer (mCRC). International trials, including KEYNOTE-177, established pembrolizumab as a first-line standard for MSI-H mCRC; however, regional real-world data remain limited.

Objective. To evaluate the prevalence of MSI-H tumors and assess real-world effectiveness of immunotherapy according to line of treatment in patients with mCRC in Azerbaijan.
Materials and Methods. A retrospective analysis included 74 patients with mCRC treated at the National Centre of Oncology (Baku). MSI status was determined by immunohistochemistry and/or PCR at diagnosis. Treatment line, type of immunotherapy (pembrolizumab or nivolumab), objective response rate (ORR), disease control rate (DCR), and time to progression (TTP) were analyzed.

Results. MSI-H tumors were identified in 39 patients (52.7%), while 35 patients (47.3%) had MSS tumors. All MSI-H patients received immunotherapy: pembrolizumab in 22 patients (56.4%) and nivolumab in 17 patients (43.6%). Immunotherapy was initiated in first line in 18 patients (46.2%) and in second or subsequent lines in 21 patients (53.8%). Objective response was observed in 20 patients (51.3%), and disease control was achieved in 31 patients (79.5%). The median time to progression was 16.1 months. Earlier initiation of immunotherapy was associated with more durable disease control. No meaningful benefit was observed in MSS tumors.

Conclusion. MSI-H metastatic colorectal cancer represents a major molecular subgroup in Azerbaijan. Early MSI testing and timely initiation of immunotherapy are essential for optimizing outcomes and implementing precision oncology in routine clinical practice.

Symptom control and quality of life as primary goals of therapy in metastatic colorectal cancer

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Relevance. Metastatic colorectal cancer (mCRC) is associated with a high symptom burden, including pain, fatigue, bowel dysfunction, and nutritional impairment, which significantly compromise patients' quality of life. A palliative-oriented approach focused on symptom relief and preservation of functional status becomes an essential component of patient management.

Objective. To evaluate the role of systemic therapy and palliative interventions in symptom control and maintenance of quality of life in patients with metastatic colorectal cancer in real-world clinical practice.

Materials and Methods. A retrospective analysis was conducted including 76 patients with mCRC treated at the National Oncology Center (Baku). The severity of major symptoms (pain, fatigue, bowel-related symptoms), patients' functional status (ECOG), and the need for

symptomatic and palliative care were assessed. Changes in clinical condition were analyzed during systemic therapy to a maintenance or palliative-oriented treatment strategy.

Results. Clinically significant symptoms at baseline were observed in 58 patients (76.3%), most commonly pain (44 patients, 57.9%) and severe fatigue (39 patients, 51.3%). Improvement or stabilization of symptoms during systemic anticancer therapy was achieved in 41 patients (70.7%). In 24 patients (31.6%), the therapeutic goal was shifted from predominantly tumor-directed treatment to a palliative-oriented approach focused on symptom control. Palliative measures included adequate analgesic therapy, correction of anemia and electrolyte disturbances, nutritional support, antidiarrheal and antiemetic therapy. In this subgroup, symptom relief was achieved in 18 patients (75.0%), and improvement or stabilization of functional status (ECOG 0–1) was observed in 15 patients (62.5%). The median duration of symptom control was 6.4 months.

Conclusion. Symptom control and quality of life represent key therapeutic goals in metastatic colorectal cancer. Timely integration of palliative interventions—including effective pain management, nutritional and symptomatic support—combined with rational modification of anticancer therapy allows for improved functional status and sustained clinical stability without unnecessary treatment burden.

When should active treatment be discontinued and maintenance therapy initiated in metastatic colorectal cancer?

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Relevance. Metastatic colorectal cancer (mcrc) is characterized by a chronic disease course and the need for prolonged systemic treatment. Although modern chemotherapy and targeted therapy regimens provide effective disease control, their long-term use is frequently associated with cumulative toxicity, deterioration of quality of life, and reduced treatment adherence. Therefore, determining the optimal timing for discontinuing active treatment and initiating maintenance therapy while preserving disease control remains a clinically important issue.

Objective. To identify clinical criteria and outcomes for transitioning from active anticancer treatment to maintenance therapy in patients with metastatic colorectal cancer in real-world clinical practice.

Materials and Methods. A retrospective analysis was conducted including 70 patients with mcrc who received systemic anticancer therapy at the National Oncology Center (Baku). Clinical status, treatment response after the induction phase, treatment tolerability, and indications for transition to maintenance therapy were assessed. Time to disease progression and changes in clinical symptoms during maintenance treatment were analyzed.

Results. Objective response or disease stabilization after the induction phase was achieved in 38 patients (54.3%). Transition to maintenance therapy was performed in 21 patients (30.0%), predominantly after 4–6 months of active treatment. The main reasons for discontinuing intensive therapy were cumulative toxicity (61.9%, n = 13), sustained disease control (28.6%, n = 6), and deterioration of performance status (9.5%, n = 2). During maintenance therapy, the median time to disease progression was 6.9 months, with most patients maintaining clinical stability and experiencing a reduction in treatment-related adverse events.

Conclusion. Discontinuation of active anticancer treatment and transition to maintenance therapy in metastatic colorectal cancer is a justified strategy for a carefully selected group

of patients. Timely decision-making allows for reduced treatment-related toxicity, preserved disease control, and improved quality of life without a significant loss of therapeutic efficacy.

Неоадъювантная химиолучевая терапии больных местнораспространенным раком прямой кишки

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Цель – Провести сравнительный анализ эффективности использование гипофракционного и классического режима лучевой терапии при неоадъювантной химиолучевой терапии у больных местно-распространенным раком прямой кишки(МРРПК).

Материалы и методы. Данная работа основана на ретроспективном анализе базы данных больных МРРПК, которым был проведён неоадъювантной курс химиолучевой терапии с последующим оперативным вмешательством. Больные были разделены на две группы: первая (исследуемая) группа, 71 больной, которым в рамках неоадъювантного лечения был выполнен курс ХЛТ в режиме гипофракционирования (РОД 4 Гр, СОД 40 Гр 3 фракции в неделю) в комбинации с химиотерапией капецитабином 1650 мг/м2 в два приёма в будние дни. Во вторую группу (группа контроля) было включено 79 больных, которым был проведён курс ХЛТ в режиме классического фракционирования (РОД 2 Гр, СОД 50-58 Гр 5 фракций в неделю) в комбинации с химиотерапией капецитабином 1650 мг/м2.

Результаты. Средняя продолжительность пролонгированного курса ХЛТ в исследуемой группе составила 22,56 (95% ДИ от 21,94 до 23,18) календарных дней, в группе контроля – 38,84 (95% ДИ от 38,12 до 39,54), p=0,0001. Лучевые повреждение III и IV степени зарегистрирована у 2,82% больных в исследуемой группе и у 1,26% больных в группе контроля. Лечебный патоморфоз III степени в группах достигнут в 22,5 и 19% случаев соответственно, p=0,593, IV степени – в 18,3 и 15,2% случаев соответственно, p=0,829.В основной и в группе контроля зарегистрировано 4,2 и 3,8% рецидивов соответственно, p=0,954, ОР=1,05 (95% ДИ от 0,21 до 5,22). Показатели трехлетней выживаемости без прогрессирования в основной группе составила 73,2% а в группе контроля 64,6% соответственно, p = 0,353, ОР=0,79 (95% ДИ от 0,42 до 1,35). Показатели трехлетней общей выживаемости в основной и в группе контроля составили 84,5 и 82,3% соответственно, p=0,743, ОР=0,87 (95% ДИ от 0,39 до 1,92).

Выводы:Таким образом, режим гипофракционирования показал высокую противоопухолевую эффективность и может рассматриваться как альтернативный и не уступающий стандартному режиму ХЛТ.

Терапевтическая эффективность и спектр токсичности первой линии дозо-модифицированной полихимиотерапии при метастатическом колоректальном раке у пациентов старшей возрастной группы

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Цель исследования. Оценить клиническую эффективность, показатели выживаемости и профиль токсичности режима полихимиотерапии CapOx с редукцией дозы капецитабина на 25% в первой линии лечения пожилых пациентов с метастатическим колоректальным раком.

Материалы и методы. Проведен ретроспективный анализ клинических данных 46 пациентов с морфологически верифицированным метастатическим колоректальным раком, получавших лечение в Республиканского специализированного научно-практического медицинского центра онкологии и радиологии в период 2021–2022 гг. Возраст пациентов варьировал от 70 до 82 лет. Общесоматический статус соответствовал ECOG 1–2. У 67% больных (n=31) имелась сопутствующая патология: артериальная гипертензия, сахарный диабет 2 типа, хроническая обструктивная болезнь лёгких, ишемическая болезнь сердца, язвенная болезнь желудка. Всем пациентам проводилась первая линия полихимиотерапии по схеме CapOx. В связи с возрастными особенностями и наличием коморбидности доза капецитабина была снижена на 25% от стандартной расчетной дозы. Оксалиплатин вводился в стандартной дозировке.

Результаты. Нежелательные явления III–IV степени зарегистрированы у 23% пациентов (n=15). Основными проявлениями тяжелой токсичности были гематологические осложнения (нейтропения, тромбоцитопения), гастроинтестинальная токсичность, сенсорная полинейропатия и ладонно-подошвенный синдром. У большинства больных (85%) нежелательные явления ограничивались I–II степенью тяжести. Наиболее часто регистрировалась сенсорная периферическая нейропатия, ассоциированная с применением оксалиплатина, однако в большинстве случаев она не требовала досрочного прекращения терапии. Объективный ответ (частичная регрессия) достигнут у 62% пациентов (n=29). Стабилизация заболевания длительностью ≥3 месяцев отмечена у 36% больных (n=15). Медиана времени до прогрессирования составила 7,9 месяца. Медиана общей выживаемости достигла 19,7 месяца, что сопоставимо с литературными данными для аналогичной популяции пациентов пожилого возраста.

Заключение. Режим полихимиотерапии CapOx с редукцией дозы капецитабина в первой линии лечения пожилых пациентов с метастатическим колоректальным раком демонстрирует благоприятное соотношение эффективности и переносимости.

Клиническая оценка роли лапароскопии в современных методах колоректальной хирургии

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Введение: Лапароскопическая хирургия всё чаще применяется в колоректальной практике благодаря своей малотравматичности. Её эффективность и безопасность при плановых операциях остаются предметом клинической оценки. Сравнение с открытыми методами позволяет определить преимущества лапароскопического подхода. Настоящее исследование направлено на изучение его роли в колоректальной хирургии.ЦЕЛЬ: Целью данного исследования была проспективная оценка роли лапароскопической хирургии у пациентов, направляемых на плановые колоректальные хирургические операции.

Методы: 56 пациентов были обследованы на предмет возможного применения лапароскопической хирургии. Решение о пригодности пациента для данной процедуры принималось оперирующим хирургом. Для анализа пациенты были распределены на группы открытой, конверсированной и лапароскопической хирургии.

Результаты: 56 пациентов были признаны подходящими для лапароскопической хирургии, 36 (65,3%) были успешно завершены. Эти завершенные операции включали правостороннюю колэктомию (22/56), сигмовидную колэктомию (12/56), переднюю резекцию (10/56), брюшно-промежностную резекцию (6/56) и левостороннюю колэктомию (6/56). Осложнения, связанные с лапароскопией, встречались редко (6,3%) и не стали причиной летальных исходов. Пациентам в группе лапароскопического лечения требовалось меньше анальгезии, они раньше переносили пероральный приём пищи и выписывались из больницы раньше, чем пациенты, перенёсшие конверсию или открытые операции.

Выводы: Лапароскопическая колоректальная хирургия является безопасной и эффективной альтернативой открытым вмешательствам. Она обеспечивает меньшее количество послеоперационных осложнений, меньшую потребность в анальгетиках и сокращение сроков госпитализации. Преимущества лапароскопии делают её предпочтительным методом при плановых операциях. Широкое внедрение данного подхода оправдано при соблюдении показаний и технических условий.

Клинические результаты восстановительных операций у колостомированных больных с колоректальным раком

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Введение: После операций по поводу колоректального рака у части пациентов формируется колостома, особенно при короткой культей прямой кишки. Восстановление кишечной проходимости у таких больных остаётся актуальной задачей. Современные

методы позволяют повысить эффективность восстановления без значительного риска осложнений. Настоящее исследование направлено на оценку результатов восстановительных операций у колостомированных больных.

Цель исследования: улучшить результаты хирургического лечения колостомированных больных с короткой культей прямой кишки перенесших операции по поводу колоректального рака

Материалы и методы: Мы изучили результаты лечения 71 колостомированного больного с короткой культей прямой кишки проходившие лечение в отделение онкоколопроктологии РСНПМЦОиР за период с января 2020 по сентябрь 2025 г. Среди оперированных 57% были женского пола, а больные старше 60 лет составили 60%. Распределение больных: рака сигмовидной кишки и прямой кишки 55 больных, рака нисходящей кишки – 16. Восстановительные операции выполняли в сроки не менее 6 месяцев после первичной операции. У 8 больных анастомоз формирован ручным способом, у 63 – механическим.

Результаты. При использовании сшивающих аппаратов мы не считали обязательным выделение культи прямой кишки и накладывали анастомоз на «площадку», стараясь максимально сохранить подлежащие сращения тазовой брюшины с кишкой, что, понашему мнению, создает дополнительный биологический защитный барьер. Среди осложнений после наложения механических швов не отмечено несостоятельности анастомоза. При традиционном двухрядном наложении ручного анастомоза у одного больного наблюдали несостоятельность анастомоза. Летальных случаев не отмечено.

Выводы: При помощи вышеописанных способов формирования анастомозов толстой кишки у подавляющего большинства пациентов с короткой культей прямой кишки восстановление кишечной непрерывности возможно и необходимо, так как это обеспечивает физическую и психологическую реабилитацию пациентов.

Клинические результаты одномоментных резекций печени и толстой кишки у пациентов с метастатическим колоректальным раком

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Введение: Колоректальный рак часто сопровождается метастазами в печень, что значительно осложняет лечение. Одновременное удаление опухоли кишечника и метастазов печени становится всё более распространённым методом. Такой подход сокращает сроки лечения и повышает шансы на выздоровление. Целью работы является оценка эффективности одномоментных резекций при метастатическом КРР. Целью проанализировать результаты одномоментного хирургического лечения метастатического КРР при выполнении атипичных резекций печени (АРП) и резекций толстой кишки.

Методы: Проведен анализ 35 пациентов с колоректальным раком, радикально оперированных одновременно с выполнением атипичной резекции печени (АРП) вместе с метастазами за период. с 2018 по 2024 год в отделение онкоколопроктологии РСНПМЦОиР. Среди них 19 женщин и 16 мужчин. Возраст больных колебался в пределах 42–83 лет. У 29 из них диагноз КРР с наличием метастазов в печень подтвержден на

основании данных компьютерной томографии органов брюшной полости с внутривенным болюсным контрастированием или УЗИ органов брюшной полости. У 6 пациентов метастатическое поражение установлено интраоперационно при ревизии печени.

Результаты: В 14 случае при обследовании и интраоперационно установлено наличие солитарного поражения печени метастазами КРР, в остальных 21 случаях определялись множественные метастатические узлы в пределах одной (14 пациентов), либо обеих (7 случаев) долей, с поражением не более 40% площади паренхимы, что позволило нам выполнить относительно радикальный объем вмешательства. Всем больным данной группы проведена АРП в пределах здоровых тканей печени с использованием высокочастотных биполярных инструментов, позволяющих достичь надежную коагуляцию всех типов сосудов печени, ушиванием дефекта печени отдельными Z-образными швами, по показаниям. Серьезных послеоперационных осложнений и летальности у данной группы пациентов не отмечено. Во всех случаях диагноз был подтвержден гистологически.

Выводы: При хирургическом лечении пациентов с метастатическим операбельным колоректальным раком и метастазами в печени предпочтительно проводить одновременное удаление опухоли толстой кишки и выполнение АРП.

ОПУХОЛИ ПИЩЕВОДА, ЖЕЛУДКА И ПАНКРЕАТОБИЛИАРНОЙ ЗОНЫ

Mahalliy tarqalgan oshqozon saratonini Gipertermik Intraperitoneal Ximioterapiya bilan kombinirlangan davolashning natijalari

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Materiallar va usullar: RIO va RIATM Toshkent viloyati filiali torakoabdominal xirurgiya bulimida oshqozon saratoni tashxisi bilan statsionar davolanishda bo'lgan bemorlar retrospektiv tadqiqoti o'tkazildi. Asosiy (I) guruhga kombinirlangan davo olgan 45 nafar bemor kiritildi: ularga standart xajmdagi operatsiya + limfodissektsiya D2 bajarilib, ertasi kuni sisplatin (100 mg/m²) bilan Gipertermik Intraperitoneal Ximioterapiyasi utkazildi. Bu guruhdagi bemorlarga adьyuvant rejimda 6kursgacha poliximioterapiya kilindi. Nazorat (II) guruhidagi 64 nafar bemorlarga standart hajmdagi operatsiya + limfodissektsiya D2 bajarilib, adьyuvant rejimda 6kursgacha poliximioterapiya o'tkazilgan.

Natijalar: I guruhda besh yillik umumiy yashab qolish ko'rsatkichi 20,7±5,7% ni tashkil etdi, bu II guruh ko'rsatkichidan — 9,5±3,4% (p=0,001) ishonchli darajada yuqori bo'ldi. Kombinirlangan davolash guruhida mahalliy retsidivlar chastotasining sezilarli darajada kamayishi qayd etildi. GIX utkazilgan bemorlar yengil asoratlar bemorlarning 3,8% da kuzatildi, operatsiyadan keyingi o'lim holatlari qayd etilmadi. Barcha bemorlar operatsiyadan so'nggi o'rtacha 10-kuni qoniqarli holatda uyiga chiqarildi.

Xulosa: maxalliy tarkalgan oshkozon saratoni bilan ogrigan bemorlarni kombinirlashgan davosiga radikal jarrohlik amaliyoti va ad'yuvant poliximioterapiyasiga Gipertermik Intraperitoneal ximioterapiyani qo'shimcha qo'llanilishi yaqin hamda uzoq muddatli (umumiy yashab qolish) natijalarni statistik jihatdan ishonchli yaxshilaydi.

Oshqozon saratonida maksimal distal subtotal rezektsiyasi

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Materiallar va usullar Toshkent viloyati onkologiya dispanserida oshqozonning distal rezektsiyalari asosan Bilьrot II usuli bo'yicha amalga oshiriladi va oshqozon cho'ltog'ining kichik egriligidagi chok chizig'i ingichka ichakning keltiruvchi halqasi bilan qoplanadi. O'sma jarayoni oshqozon tanasining pastki uchdan bir qismi yuqori chetigacha tarqalgan 27 nafar bemorda oshqozonning maksimal distal subtotal rezektsiyasi bajarildi. Rezektsiya chizig'i oshqozonning kichik egrilik kardiyasidan katta egrilikning taloqning yuqori qutbi yakin tomon o'tkazildi. Bunday xajmda oshqozonning bir yoki ikki qisqa tomirlari saqlab qolindi, bu esa anastomoz hamda cho'ltoq uchun yetarli qon bilan ta'minlanishini amalga oshirdi.

Natijalar bajarilgan operatsiyalar barcha xollarda asoratlarsiz amalga oshirishna muvaffaq bo'lindi. Operatsiyadan keyingi davr qoniqarli kechdi. Anastomoz yetishmovchiligi hamda nekroz xolatlari kuzatilmadi. O'tkazilgan morfologik tekshiruvlar rezektsiya chiziqlari bo'yicha o'sma xujayralari yo'qligini kursatdi. Bajarilgan limfodissektsiya oshqozon saratonini jarrohlik yo'li bilan davolash standartlariga muvofiq keldi. Oshqozonning kichik qismini saqlab qolish uning hazm qilish jarayonida ishtirok etishini ta'minlaydi, postgastrektomik sindromlarning namoyon bo'lishini kamaytiradi va reflyuks-ezofagit rivojlanishini deyarli istisno qiladi. Xulosalar 1. Oshqozonning maksimal distal subtotal rezektsiyasi oshqozon saratonini jarrohlik yo'li bilan davolashning asosiy onkologik tamoyillariga rioya etilishini ta'minlaydi. 2. Ushbu metodikani qo'llash anastomoz yetishmovchiligi va operatsiyadan keyingi asoratlar xavfini kamaytiradi. 3. Oshqozonning kichik cho'ltog'ini saqlab qolish funktsional natijalarni va bemorlar hayot sifatini yaxshilaydi.

Laparoscopic gastrectomy for gastric cancer treatment

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Background. Laparoscopic gastrectomy has become an accepted minimally invasive approach for the treatment of early and locally advanced gastric cancer. However, its oncological safety and perioperative outcomes continue to be evaluated, particularly in developing surgical centers.

Materials and Methods. A retrospective analysis was performed of 84 patients with gastric adenocarcinoma who underwent laparoscopic gastrectomy with D2 lymphadenectomy between 2019 and 2026 at a single tertiary oncological center. The study included 50 men (59.5%) and 34 women (40.5%), with a mean age of 46 ± 5.4 years. Tumor stages ranged from cT1b–T2, cN0–N1, according to preoperative staging. Tumors were localized in the distal stomach and body, proximal to the pylorus. All patients underwent radical laparoscopic gastrectomy with standard D2 lymph node dissection. Reconstruction was performed using a side-to-side esophagojejunostomy with a linear stapler. Descriptive statistical analysis was applied.

Results. Mean intraoperative blood loss was 85 ± 15 ml, and mean operative time was 240 ± 46.5 minutes. Postoperative esophagojejunostomy leakage occurred in 2 patients (2.4%). Conservative management was successful in one case, while one patient (1.2%) died due to sepsis. Another one patient (1.2%) died from massive pulmonary thromboembolism. The

mean postoperative hospital stay was 6.4 ± 1.1 days. During follow-up, tumor progression was observed in 12 patients (14.3%) at 11–16 months after surgery.

Conclusion. Laparoscopic gastrectomy with D2 lymphadenectomy is a technically demanding but feasible and oncologically acceptable procedure. It is associated with low intraoperative blood loss, acceptable morbidity, and short hospital stay, supporting its use as a minimally invasive alternative to open surgery in selected patients with gastric cancer.

Me`da xavfli o`smasida laparoskopik gastrektomiyaning texnik xususiyatlari

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Materiallar va usullar: RIO va RIATM Buxoro filiali 2023 yil noyabrdan 2026 yil yanvargacha II jarrohlik bo'limida yotqizilgan 24-79 yoshli me`da saratoni bilan laparoskopik amaliyot bajarilgan 34 ta bemorni o'z ichiga oldi. O'rtacha yoshi 50,4 edi. Kasallikning I-II bosqichda bajarildi. Jarrohlik yondashuvlarini amalga oshirish uchun biz foydalandik: bitta 10 mm,2ta 12 mm va ikkita 5 mm troakar.Operatsiyalar umumiy og`riqsizlantirish ostida o'tkazildi. Meda kichik egriligi yuqori qismi mobilizasiya qilinib, jigar chap bo`lgi maxsus ip yordamida fiksatsiya qilindi. Chap me'da arteriyasi kesilib, oshqozonning katta va kichik egri chizig'i bo'ylab safarbar qilgandan so'ng, 12 barmoqli ichak piyozcha qismi EndoGia 60 mm stapler yordamida kesib o'tgandan so'ng, qizilo`ngach abdominal qismi mobilizasiya qilingandan so`ng taxminan 5 mm qoldirilib EndoGia 60 mm stapler yordamida qizilo`ngach rezeksiya qilindi va gastrektomiya amaliyoti bajarildi. Treys ligamentidan 30 sm masofada qizilo'ngach-jejunal anastomoz qo'yish uchun jejunum belgilandi va 7 mm texnologik teshik ochildi, shundan so'ng jejunum qizilo'ngachning qorin qismiga cho'zildi va 45mm chiziqli stapler bilan anastamoz qo`yildi. biz Roux-en-Y ko'ra, ajratilgan jejunumda oldingi-kolik qizilo'ngach anastomozlarini o'tkazdik.

Natijalar: Operatsiya davomiyligi 140±34,1 minut.Operatsiya paytida qon yo'qotish 65±23,5 ml ni tashkil etdi. 3 ta konversiya. 1 ta kuzatuvda asoratlardan ekssudativ plevrit, 1 ta holatda anastamozdan qon ketish.O'rtacha kasalxona kuni 8,2±1,1 kun edi.

Xulosa: Laparoskopik gastrektomiya erta meda saratoni uchun samarali jarrohlik davolash hisoblanadi.Operasiyalar minimal travmatik va qon yo'qotish bilan birga keladi.

Perioperative immunotherapy for locally advanced gastric cancer: achievements and unresolved issues on the way to personalization

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Objective. To evaluate the outcomes of biomarker-driven perioperative immunotherapy in LAGC and to identify limitations and unresolved challenges through a critical analysis of a prospective cohort.

Methods. A total of 186 patients with resectable LAGC (cT2–4N0–3M0, ECOG 0–1) underwent comprehensive molecular profiling (MSI, PD-L1 CPS, EBV, HER2, TMB). Treatment allocation: MSS tumors received FLOT + anti-PD-1; MSI-H tumors received neoadjuvant nivolumab + ipilimumab (chemo-free). Primary endpoint: pathological complete response (pCR, ypT0N0). Secondary: R0 rate, 2-year EFS/OS, safety. Statistical analysis included logistic regression, Kaplan–Meier, and Cox models.

Results. R0 resection rate was 96.2%, with 11.8% major postoperative complications (Clavien– Dindo ≥IIIa) and no 90-day mortality. Overall pCR rate was 28.0% (52/186). Stratified by biomarker: MSI-H 82.1% (23/28); MSS/CPS≥10 37.5% (15/40); MSS/CPS 1–9 10.0% (6/60); MSS/CPS<1 13.8% (8/58). EBV+ tumors (n=11) achieved pCR in 54.5%. On multivariate analysis, MSI-H (OR 16.4; p<0.001) and MSS/CPS≥10 (OR 3.8; p=0.001) were independent predictors of pCR. At median follow-up of 24 months, 2-year EFS was 65.1% (MSI-H 88%, MSS/CPS≥10 72%, MSS/CPS<1 48%). Achievement of pCR strongly correlated with improved EFS (HR 0.31; p<0.001). Grade ≥3 immune-related AEs occurred in 5.9% of patients.

Conclusions. Biomarker-driven perioperative immunotherapy yields high pCR rates in immunogenic LAGC subtypes with acceptable safety. However, significant knowledge gaps remain: optimal integration of novel agents for cold tumors, validation of composite biomarkers beyond PD-L1/MSI, and long-term survival impact. Future trials must adopt adaptive designs and incorporate comprehensive translational endpoints to refine personalized strategies in diverse populations.

Radical and Optimized Surgical Approaches in Pancreaticoduodenectomy for Pancreatic Ductal Adenocarcinoma: A Systematic Review of Oncologic and Morbidity Outcomes

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Background: Standard pancreaticoduodenectomy (SPD) for pancreatic ductal adenocarcinoma (PDAC) is associated with high rates of local recurrence. Extended approaches - including extended lymphadenectomy (ELD), the Triangle operation, and total mesopancreas excision (TMpE) aim to maximize oncologic clearance. However, their impact on survival versus postoperative morbidity remains controversial. We aimed to perform a meta-analysis comparing the oncologic and perioperative outcomes of standard versus optimized pancreaticoduodenectomy.

Methods: We systematically searched PubMed, Embase, ClinicalTrials.gov, and the Cochrane Central Register of Controlled Trials for primary randomized controlled trials (RCTs) and comparative cohort studies evaluating SPD versus extended techniques - specifically extended lymphadenectomy (ELD), total mesopancreas excision (TMpE), and the Triangle operation in patients with PDAC. Primary endpoints were overall survival (OS), disease-free survival (DFS), and R0 resection rates. Secondary outcomes included operative time, estimated blood loss, and postoperative morbidity. Heterogeneity was assessed using the Cochran Q test and I^2 statistics; p-values < 0.10 and I^2 > 25% were considered significant.

Results: We included 4 RCTs and 3 comparative cohorts comprising over 1,170 patients. Routine ELD yielded significantly more lymph nodes but consistently failed to improve long-term survival (1-, 3-, and 5-year OS). Instead, ELD significantly increased operative time, intraoperative blood loss, and severe postoperative diarrhea, significantly compromising bowel control at 4 months postoperatively (P < 0.05). Conversely, targeted anatomical clearance demonstrated substantial oncologic benefits. TMpE achieved a high R0 resection rate (86%) without causing a spike in severe postoperative complications. The Triangle operation dramatically reduced local recurrence (16.0% vs. 37.8%) and overall recurrence (48.1% vs. 81.8%, P < 0.001) compared to standard resection, though it was associated with significantly longer operative duration and higher blood loss. Additionally, extended resection in a prespecified subgroup (CA19-9 < 200 U/ mL) demonstrated significantly improved OS and DFS.

Conclusions: Routine extended lymphadenectomy does not provide a universal survival benefit for the general PDAC population, significantly worsens perioperative morbidity, and should be avoided in unselected patients. Conversely, anatomically targeted approaches like TMpE and the Triangle operation are highly effective for increasing R0 rates and drastically decreasing local recurrence. Surgical radicality should be strictly individualized based on tumor anatomy and preoperative biomarkers.

Effectiveness of combined treatment for locally advanced gastric cancer

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Aim: To improve treatment outcomes in locally advanced gastric cancer (LAGC) through combined modality therapy.

Materials and Methods: This study analyzed 765 patients with LAGC (T4bN1-2M0) treated between 2012 and 2023 across three oncology centers in Uzbekistan. The cohort included 482 (63%) men and 283 (37%) women, with a mean age of 58.2 years (range: 28–82). All patients underwent standard staging with MSCT and MRI; PET-CT was performed in 206 (26.9%) cases. Tumor invasion involved adjacent structures in all patients: pancreas (37.1%), transverse colon/ mesentery (19.1%), diaphragm (18.2%), retroperitoneum (10.2%), left liver lobe (7.4%), and spleen/ anterior abdominal wall (8.0%). Patients were divided by treatment strategy. Group 1 (n=402, 2012–2018) underwent combined gastrectomy followed by 4 cycles of adjuvant chemotherapy. Group 2 (n=363, 2018–2023) received 4–6 cycles of neoadjuvant chemotherapy (FLOT, FOLFOX, FOLFIRI regimens), followed by surgery and adjuvant chemotherapy. Following neoadjuvant treatment (assessed by WHO criteria, 1979), objective response was observed in 97% (partial 96.5%, complete 0.5%), with stable disease in 2.6% and progression in 0.4%. Neoadjuvant therapy facilitated tumor downsizing, allowing standard radical gastrectomy in 94.4% of patients, while combined resections were required in only 5.5%. Three patients (0.4%) developed distant metastases during neoadjuvant treatment and did not undergo surgery.

Results: Postoperative complications occurred in 8.0% of Group 1 (surgical 37.5%, therapeutic 62.5%) versus 5.8% in Group 2 (surgical 28.6%, therapeutic 71.4%). Postoperative mortality was 1.2% in Group 1 and 0% in Group 2. Long-term outcomes significantly favored Group 2: 1-year survival 85.9% vs 74.9%, 3-year 50.2% vs 33.8%, and 5-year 28.1% vs 11.2% ($p<0.05$).

Conclusion: Neoadjuvant chemotherapy facilitates tumor downsizing, reducing the need for extensive multivisceral resections without increasing postoperative morbidity or mortality, and significantly improves long-term survival in LAGC. The sequential improvement over time may reflect both therapeutic advances and refined patient selection, warranting confirmation in prospective randomized.

Minimally invasive surgery after neoadjuvant polychemotherapy for locally advanced gastric cancer: comparative outcomes versus open surgery

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Objective: To evaluate the outcomes of minimally invasive surgery after neoadjuvant polychemotherapy (NAPCT) compared with conventional open surgery in patients with locally advanced gastric cancer.

Materials and methods: The study included 105 patients divided into 3 groups: group 1, open surgery without NAPCT; group 2, NAPCT followed by open surgery; and group 3, NAPCT followed by laparoscopic surgery. The following parameters were compared: intraoperative blood loss, operation time, duration of narcotic analgesic use, length of hospital stay, postoperative complications according to the Clavien-Dindo classification, anastomotic failure, quality of life, rehabilitation time, and recovery of working capacity.

Results: Laparoscopic surgery after NAPCT showed the most favorable perioperative and recovery outcomes. Mean intraoperative blood loss was lowest in group 3, approximately 150 mL, compared with 250–350 mL in the open-surgery groups. Operation time was longer in the laparoscopic group (165 minutes versus 120 and 135 minutes), likely reflecting the learning curve. However, postoperative recovery was superior after minimally invasive surgery: narcotic analgesics were required for a mean of 2 days versus 3.5 and 3 days in groups 1 and 2; mean hospital stay decreased to 6.5 days versus 8 and 7.5 days, respectively. Minor complications were least frequent in group 3: 6 cases versus 15 and 12. No anastomotic failure and no 1-year mortality were observed in any group. Patients in the laparoscopic group also demonstrated better quality of life, faster rehabilitation, and earlier recovery of working capacity.

Conclusion: Laparoscopic surgery after NAPCT for locally advanced gastric cancer is associated with lower blood loss, fewer complications, shorter hospitalization, and faster functional recovery. Despite longer operative time, this approach appears promising for wider implementation in oncologic surgery in Uzbekistan.

Perkutan transgepatik xolangiostomik nay yordamida endobiliar qisqich biopsiya namunasini qiyosiy o'rganish

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Maqsad: Teri-jigar orqali xolangiostomik nay yordamida endobiliar qisqich biopsiya namuna olish usulining aniqlik darajasini qiyosiy o'rganish.

Tekshiruv uslublari: 2021 yildan 2025 yilgacha 27 ta bemorda o'rganildi. Teri jigar orqali xolangiostom naydan xolangiopankreatografiya (TJXG) paytida proksimal o't yo'lidan namuna olish uchun biopsiya protseduralari texnik jihatdan qiyin bo'lishi mumkin. O't yo'liga biopsiya qisqichlarini kiritish oson ish emas va ba'zi noxush hodisalarni keltirib chiqarishi mumkin. Bundan tashqari, belgilangan hududdan maqsadli namuna olish paytida qisqichlarni nazorat qilish va joylashtirish qiyin bo'lishi mumkin. Bemor SH. 61 yoshli ayol. Qorin bo'shligi kampyuter tomografiyasida ko'rsatilgan proksimal o't yo'llarining strikturasidan kelib chiqqan sariqlik tufayli teri jigar orqali xolangiostomiya qo'yildi va TJXG dan o'tkazildi. Flyoroskopiya tekshiruvda proksimal o't yo'lida 26 mm, tuxumsimon plomba nuqsoni aniqlangan. Teri jigar orqali xolangiostomiya biliar ballonlashdan so'ng, diametri 1,8 mm va sig'imi 2,5 mm 3 stakan bo'lgan an'anaviy qisqich yordamida to'qima biopsiyasini olishga urinib ko'rilgan (Optimos®

biopsiya forseps, Medical). Shu bilan birga, biopsiya qisqichlarini o’t yo’liga kiritishda, ayniqsa biopsiya kanalning yon devoriga qaratilgan bo’lsa, biopsiya jarayonlari texnik jihatdan qiyin bo’lishi mumkin. Shuning uchun biz biopsiya qisqichlarining proksimal qismiga silikon naychani biriktirdik. Silikon trubka qo’lda ishlangan prototip bo’lib, o’t yo’liga yo’naltiruvchi sim va qisqichlarning oson o’tishiga imkon beruvchi qisqich teshikka ega. Ushbu biopsiya qisqich yordamida massaning markaziy maydonidan maqsadli namuna olish oson va muvaffaqiyatli amalga oshirildi.

Natija: Kam quvvatli mikroskopik tekshirishda nekrotik qoldiqlar fonida yuqori differensiallangan adenokarsinoma parchasi aniqlanadi. Teri jigar orqali xolangiostom naydan xolangiopankreatografiya (TJXG) orqali olingan o’simta massasi miqdori gistologik diagnostika uchun etarli to’qimalardan namuna olish uchun ustun ekanligini ko’rsatadi.

Xulosa: Teri-jigar orqali xolangiostomik nay yordamida endobiliar qisqich biopsiya namunasini aniqlik darajasi o’t yo’llari bujlanib olinganda yuqori darajada bo’lishi aniqlandi.

The Role and Effectiveness of Minimally Invasive Technologies in the Surgical Treatment of Gastric Cancer

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Aim of the Study. To evaluate the effectiveness of minimally invasive technologies (laparoscopic approach) compared with conventional open gastrectomy in patients with T1–2, N0–1, M0 gastric cancer.

Results and Statistical Analysis. The study was conducted at the Republican Specialized Scientific and Practical Medical Center of Oncology and Radiology. A retrospective analysis included 45 patients with T1–2, N0–1, M0 gastric cancer. Patients were divided into two groups: Minimally Invasive Technology (MIT) – n = 15(33/3%) Open Gastrectomy (OG) – n = 30(66.6%). Intraoperative Blood Loss (mean values) MIT: 50–100 ml OG: 300–500 ml. Blood loss in the minimally invasive group was 4–6 times lower compared to the open surgery group ($p < 0.001$), demonstrating a statistically significant difference. Early Postoperative Mobilization (verticalization on postoperative day 1) MIT: 86.7% (13/15) OG: 40.0% (12/30).The difference was statistically significant ($\chi^2 = 8.21$; $p = 0.004$). Length of Postoperative Hospital Stay (mean duration) MIT: 5–7 days OG: 10–14 days. The difference was statistically significant ($p < 0.01$). Early Postoperative Complication Rate MIT: 13.3%/ OG: 26.7%. The difference was not statistically significant ($p = 0.28$). Analytical Conclusion The minimally invasive approach significantly reduces intraoperative blood loss, promotes earlier postoperative mobilization, and shortens hospital stay. Although no statistically significant difference was observed in complication rates, minimally invasive surgery demonstrates clear advantages over open laparotomy in terms of clinical recovery and rehabilitation speed.

Gepatotsellulyar karsinomada transarterial kimyoembolizatsiya: transfemoral va transradial kirish yo‘llarining xavfsizlik hamda klinik samaradorligini qiyosiy tahlili

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Maqsad: Gepatotsellulyar karsinoma bilan kasallangan bemorlarda transarterial kimyoembolizatsiya bajarishda transradial va transfemoral kirish yo‘llarining xavfsizlik, texnik muvaffaqiyati, amaliyot davomiyligi hamda klinik samaradorlik ko‘rsatkichlarini qiyosiy tahlil qilish.

Material va metodlar: Tadqiqot Respublika ixtisoslashtirilgan onkologiya va radiologiya ilmiy-amaliy tibbiyot markazi bazasida 2025–2026 yillar davomida o‘tkazildi. Bir yil ichida gepatotsellulyar karsinoma tashxisi tasdiqlangan 120 nafar bemorda jami 120 ta transarterial kimyoembolizatsiya amaliyoti bajarildi. Tadqiqot retrospektiv-kuzatuv usulida olib borildi. Bemorlarning o‘rtacha yoshi 50,3 ± 8,7 yoshni tashkil etdi (oralig‘i 34–68 yosh). Jinsiy taqsimotda erkaklar 78 nafarni (65%), ayollar 42 nafarni (35%) tashkil etdi, bu gepatotsellulyar karsinoma epidemiologiyasiga mos keladi. Arteriyal kirish yo‘li sifatida 86 nafar bemorda (71,7%) transradial yondashuv, 34 nafar bemorda (28,3%) transfemoral yondashuv qo‘llanildi. Guruhlar yoshi va jinsiy tarkibi bo‘yicha statistik jihatdan farq qilmadi. Baholangan ko‘rsatkichlar: texnik muvaffaqiyat darajasi, amaliyot davomiyligi (daqiqada), kirish joyi bilan bog‘liq asoratlar (%), gemorragik asoratlar (%), statsionarda yotish davomiyligi (kun). Statistik tahlil Student’s t-test va χ^2 testi yordamida bajarildi, $p<0,05$ ishonchli deb qabul qilindi.

Natijalar: Texnik muvaffaqiyat TRA guruhida 98,8% (85/86), TFA guruhida 97,1% (33/34) ni tashkil etdi ($p=0,48$). Amaliyotning o‘rtacha davomiyligi transradial guruhda 42,6 ± 6,3 daqiqa, transfemoral guruhda 51,4 ± 7,1 daqiqa bo‘lib, farq statistik jihatdan ishonchli bo‘ldi ($p<0,001$). Kirish joyi bilan bog‘liq asoratlar TRA guruhida 2,3% (n=2), TFA guruhida 11,8% (n=4) qayd etildi ($p=0,03$). Asoratlar asosan gematoma va lokal qon ketish ko‘rinishida bo‘ldi. Katta gemorragik asoratlar kuzatilmadi, biroq kichik gemorragik epizodlar TFA guruhida ko‘proq uchradi (8,8% vs 1,2%). Statsionarda yotish davomiyligi TRA guruhida o‘rtacha 2,1 ± 0,6 kun, TFA guruhida 3,4 ± 0,8 kunni tashkil etdi ($p<0,001$). Olingan natijalar shuni ko‘rsatdiki, klinik samaradorlik jihatidan har ikki yondashuv teng darajada natija beradi. Biroq xavfsizlik profili, amaliyot vaqtining qisqaligi va bemorlarni erta mobilizatsiya qilish imkoniyati transradial kirishning ustunligini namoyon etdi. Gemostaz davrining qisqaligi va bemorning tezroq vertikal holatga o‘tishi reabilitatsiya jarayonini tezlashtirdi. Bu natijalar xalqaro ma’lumotlar bilan mos keladi.

Xulosa: Gepatotsellulyar karsinomada transarterial kimyoembolizatsiya bajarishda transradial kirish yo‘li yuqori texnik muvaffaqiyat, kam asoratlar, qisqaroq amaliyot davomiyligi va statsionarda yotish muddatining kamayishi bilan tavsiflanadi. Klinik samaradorlik jihatidan transfemoral yondashuvdan kam emas. Shuning uchun transradial usulini kengroq joriy etish maqsadga muvofiq deb hisoblanadi.

Atezolizumab va Bevacizumab bilan davolangan metastatik gepatosellyulyar karsinomada biokimyoviy va radiologik regressiya

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Maqsad: IVB-bosqichli, jigarning bilobar zararlanishi va o‘pka metastazlari mavjud gepatosellyulyar karsinomali bemorda Atezolizumab + Bevacizumab kombinatsiyasining biokimyoviy (AFP) va radiologik samaradorligini baholash hamda chuqur javobni tasdiqlash.

Material va metodlar: Ushbu tadqiqot IVB bosqichdagi metastatik gepatosellyulyar karsinomali bemorni o‘rganishga qaratilgan. Bemor 76 yoshli erkak bo‘lib, T4N1M1, IVB

bosqichdagi gepatosellyulyar karsinoma bilan tashxislangan. Jigarning bilobar zararlanishi va ikki tomonlama o‘pka metastazlari aniqlandi. Klinika jihatdan bemor keng tarqalgan metastatik jarayon bilan kechgan, ECOG = 1. Dastlabki tekshiruvlari: Ultratovush tekshiruvi (21.11.2025): 86×95×66 mm jigarning hajmli hosilasi, darvoza venasi atrofida limfadenopatiyasi. MSKT (26.11.2025): O‘ng va chap jigar bo‘laklarining tugunli zararlanish, ikki tomonlama o‘pka metastazlari. 4,5,8-segmentlarda notekis noaniq konturli hajmiy hosila aniqlanadi, o‘lchamlari 92 × 96 × 145 mm. Jigarning 4-segmenti konturi bo‘yicha 26 mm o‘lchamli alohida tugun aniqlanadi. PET/ KT (03.12.2025): Metabolik faol jigar o‘choqlari, ko‘p sonli limfogen va gematogen metastazlar. Laboratoriya: AFP = 1000 IU/mL (normal: 0–6.05 IU/mL), boshqa biokimyoviy parametrlar norma doirasida. Tizimli davolash: Atezolizumab + Bevacizumab kombinatsiyasi. Kurslar: 4 sikldan iborat bo’ldi va Respublika ixtisoslashtirilgan onkologiya va radiologiya ilmiy-amaliy tibbiyot markazi Gepatopankreatobiliar bo‘limida - 03.12.2025, 24.12.2025, 14.01.2026, 04.02.2026 yil sanalarida o’tkazildi. Har kursdan keyin klinik tekshiruv, AFP darajasiva radiologik monitoring qilinib borildi.

Natija: AFP darajasi davolash kurslari bo‘yicha grafigi tuzildi va biokimyoviy regressiya tahlil qilindi. AFP 1000 UI/ml dan 8.72 UI/ml gacha regressiya kuzatildi. AFP - 99% gacha pasaydi. Radiologik regressiya va biokimyoviy javob integrativ tarzda baholandi, chuqur javobni aniqlash uchun qo’llanildi. O’sma hajmi boshlang’ich UTT tekshiruvda jigar 4-5 segmentlarida maksimal diametrik 9 sm bo’lgan hajmli o’choq aniqlangan bo’lsa 3-sikl immunotarget terapiyadan oldin tekshiruv o’tkazilganda UTT da jigarda hosila aniqlanmadi.

Xulosa lar: 1. IVB bosqichli gepatosellyulyar karsinomali bemorlarda Atezolizumab + Bevacizumab kombinatsiyasi bilan o‘tkazilgan immunotarget terapiya natijalari chuqur biokimyoviy va radiologik javobni ko‘rsatdi.

2. Bemorning yoshi va keng tarqalgan metastatik jarayoniga qaramay, samarali klinik javob kuzatildi, bu esa immunotarget terapiyaning xavfsizligi va yuqori samaradorligini yuqori yoshli bemorlarda ham tasdiqlaydi. Ushbu holat, shuningdek, real klinik amaliyot sharoitida IVB bosqichdagi gepatosellyulyar karsinomali bemorlarida chuqur regressiya olish mumkinligini ko‘rsatadi, bu esa immunotarget davening klinik foydaliligi va terapevtik istiqbollarini yoritadi.

3.AFP darajasi 1000 IU/mL dan 8.72 IU/mL gacha (~99%) kamayishi tizimli terapiyaning samaradorligini tasdiqlaydi.

4. Kombinatsiyalangan Atezolizumab + Bevacizumab terapiyasi metastatik gepatosellyulyar karsinomali bemorlarida o’sma hajmini sezilarli kamaytirish, biokimyoviy markerlarni normallashtirish va sifatli hayot ko‘rsatkichlarini yaxshilash imkonini beradi.

Me’da osti bezi neyroendokrin o‘smalarida “Xromogranin-A” markerining diagnostik ahamiyati va bioterapiya samaradorligi

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Maqsad: Oshqozon osti bezi neyroendokrin o’smalari bilan kasallangan bemorlarda Xromogranin A ning diagnostik ahamiyatini baholash hamda Oktreotid terapiyasi fonida onkomarker dinamikasini o’rganish.

Material va metodlar: Tadqiqotga Respublika ixtisoslashtirilgan onkologiya va radiologiya ilmiy-amaliy tibbiyot markazi Gepatopankreatobiliar bo‘limida davolangan 27–65 yoshdagi 20 nafar bemor kiritildi. Tadqiqot prospektiv kuzatuv xarakteriga ega bo‘lib, barcha bemorlarda o‘smaning gistologik tasdig‘i mavjud edi. Barcha bemorlarda xromogranin A darajasi aniqlandi. O‘rtacha Xromogranin A miqdori 192 ng/ml tashkil etdi (min – 60 ng/ml, max – 500 ng/ml). Barcha bemorlarga o‘smaning lokalizatsiyasiga qarab radikal R0 rezektsiya bajarildi. Bemorlarda bioterapiya operatsiyadan oldin induksiya davri boshlandi va somatostatin analogi

sifatida oktreotid 0,1 mg teri ostiga kuniga 3 mahal 14 kun davomida start terapiys, keyinchalik bazis terapiya uzoq muddatli ta’sirga ega ырфлдш ишдфт rejim asosida davoni davom ettirildi. Somatostatin analogi terapiyasi fonida me’da sekresiyasini pasaytrish orqali bilvosita ta’sir qilish uchun proton pompa ingibitori 40 mg sutkada tavsiya etildi. Amaliyotdan keyingi 3- va 6-oyda Xromogranin A darajasi qayta tekshirildi, klinik simptomlar, biokimyoviy ko‘rsatkichlar va davolashga klinik javob baholandi. Tadqiqotda davolash samaradorligi Xromogranin A darajasining dinamik o‘zgarishi va klinik simptomlar regressiyasi asosida kompleks tarzda baholandi.

Natija: Amaliyotdan keyin Xromogranin A darajasi aksariyat bemorlarda sezilarli pasaydi, bu R0 rezektsiya samaradorligini ko‘rsatadi. 20 nafar bemorning 85% da bioterapiya fonida Xromogranin A normallashdi va barqarorlik kuzatildi. Qo‘shimcha statistik kuzatuv: Xromogranin A darajasi yuqori bo‘lgan bemorlarda (≥250 ng/ml) bioterapiya samarasi ko‘proq sezildi. 3 oylik nazoratda simptomatik yaxshilanish 70%, 6 oyda esa 75% bemorlar qoniqarli javob berdi.

Xulosa lar: 1. Xromogranin A me’da osti bezi neyroendokrin o‘smalari bilan kasallangan bemorlarda diagnostik va biomarker sifatida ishonchli; 2. Amaliyotdan keyin Xromogranin A darajasining pasayishi radikal rezektsiya samaradorligini ko‘rsatadi; 3. Oktreotid bioterapiyasi fonida Xromogranin A dinamikasi bemorning klinik javobini monitoring qilishda va kasallikning progressiyasini baholashda muhim; 4. 20 nafar bemor tajribasi shuni ko‘rsatdiki, kombinatsiyalangan jarrohlik + bioterapiya me’da osti bezi neyroendokrin o’smalari bor bemorlarda xavfsiz va samarali yondashuv hisoblanadi.

Inflammatory fibrous polyp of the stomach: a rare mesenchymal neoplasm

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Inflammatory fibrous polyp (IFP) is a benign mesenchymal neoplasm of hypocellular fibroblastic origin, usually with a polypoid architecture, showing a predilection for the stomach and small intestine. The tumor stroma demonstrates inflammatory infiltration, particularly rich in eosinophils. It is most commonly encountered in the antral region of the stomach, followed by the ileum. Tumors are mainly localized in the submucosa but may also extend into the mucosa. Because it shows clinical and histological similarities with other mesenchymal tumors, accurate diagnosis remains a relevant problem.

Objective: To present the clinical, histopathological, and immunohistochemical features of inflammatory fibrous polyp and to emphasize its importance in differential diagnosis.

Materials and methods: A 76-year-old female patient. She presented to the endoscopist with complaints of pain in the epigastric region. During the endoscopic examinations, a polypoid lesion was identified in the stomach, and an ESD was performed. Histopathological evaluation revealed that the tumor was poorly circumscribed and hypocellular, with a stroma composed of short spindle-shaped and stellate cells. The stroma showed edematous and sometimes myxomatous or collagen-rich areas, along with mixed inflammatory infiltration consisting of eosinophils and lymphocytes. Immunohistochemical examination demonstrated positivity for CD34 and PDGFRA in most cases, while SMA showed limited positivity in only a small number of tumors. KIT, DOG1 (ANO1), desmin, S100, SOX10, and keratins were negative.

Conclusion: Inflammatory fibrous polyp is a rare benign mesenchymal neoplasm. As it can mimic GIST and other mesenchymal tumors clinically and histologically,immunohistochemical examination is essential for accurate diagnosis. Positivity for CD34 and PDGFRA is of significant diagnostic value. Early and correct diagnosis plays a key role in protecting patients from unnecessary aggressive treatment.

Özofagus kanseri nedeni ile İvor-Lewis operasyonu yapılan hastada geç dönemde gelişen gastrobronşial fistül

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Giriş: Özofagus kanseri nedeniyle yapılan özofajektomiler sonrası birçok komplikasyon gelişebilmektedir. Bunlar medical veya cerrahi komplikasyonlardır. Bu komplikasyonların bir kısmı minör komplikasyonlardır ve tedavisi kolaydır. İkinci kısım komplikasyonlar tedavisi oldukça zor olan ve morbidite, mortalitesi yüksek olan majör komplikasyonlardır. Özofajektomi sonrası geç dönemde gastrobronşial fistül gelişmesi oldukça nadir komplikasyondur. Biz de özofagus kanseri nedeni ile 6 kür kemoterapi sonrasında İvor-Lewis operasyonu yaptığımız ve 7 ay sonra ezofagobronşial fistül gelişen 60 yaşlı erkek hastayı sunuyoruz. Anahtar kelimeler: Özofagus kanseri, gastrobronşial fistül, komplikayon Olgu: 60 yaşında erkek hasta, Aralık 2024 tarihinde disfaji şikayeti ile kliniğimize başvurdu. Hikayesinden, disfajinin 1 yıldır devam ettiği, son 2-3 ayda arttığı öğrenildi. Hastaya dış merkezde endoskopik müayene yapılmış, özofagus orta kesimde 15sm'lik segment boyunca devam eden kitle izlenmiştir. Histolojik müayene sonucu taşlı yüzük hücreli karsinom olarak raporlanmıştır. Hastanın PET/BT'de başka bir odakta FDG tutulumu yoktu. Neoadjuvan tedavi planlandı ve 6 kür kemoterapi sonrası çekilen toraks BT ve PET/BT'de tümörde regresyon sağlanan hastaya, ameliyat öncesi gerekli hazırlık yapıldı. Hastaya laparotomi ve torakotomi ile İvor Lewis özofajektomi operasyonu yapıldı. Son evreleme ypT0N0M0 olaraq belirlendi. Postoperativ her hangi bir major komplikasyon görülmeyen hasta taburcu edildi. Postoperativ kemoradioterapi gerek görülmeyen hastanın 3 ay sonraki kontrol müayenelerinde her hangi bir patolojik bulgu görülmedi. Postoperativ 7. ayda hasta su içerken dirençli öksürük, aspirasyon şikayeti ilə tekrar kliniğimize baş vurdu. Hastaya peros kontrastlı BT, ezofagosgastroskopi müayinesi yapıldı ve mide ile intermediat bronş arasında 3-4mm'lik fistül görüldü. Tümor lehine bulguya rastlanmadı. Etioloji olarak mide ve bronş dokuları arasında uzunsüreli temasın nadir de olsa fistüle neden olduğunu düşünmekteyiz. Fistülün boyutunu dikkate alarak hasta ilk önce endoskopik tedavi amacıyla endoskopi bölümüne yönlendirildi.

Sonuç: Cerrahi tekniklerin ve tıp alanının gelişmesine rağmen özofajektomi ameliyyatı sonrasında komplikasyon gelişme oranı hala yüksektir. Hastada erken, orta veya geç dönem komplikasyon oluşması farketmeksizin tanının erken dönemde konulması ve uygun tedavinin uyğulanması hayat kurtarıcı olabilir.

Klatskin o'smalarida o'ng va chap jigar o't yo'llarini alohida kontraslash sharoitida teri-jigar orqali xolangiografiya va xolangiostomiya samaradorligini baholash

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Maqsad: Bismuth IV darajali Klatskin o'smalarida o'ng va chap jigar o't yo'llarini alohida kontraslash sharoitida teri-jigar orqali xolangiografiya va xolangiostomiya samaradorligini baholash hamda drenaj taktikasini optimallashtirish.

Material va usullar: Tadqiqot Respublika ixtisoslashtirilgan onkologiya va radiologiya ilmiyamaliy tibbiyot markazi Gepatopankreatobiliar bo'limida 2025–2026 yillar oralig'ida o'tkazildi. Tadqiqotga Bismuth IV darajali Klatskin o'smalari bilan murojaat qilgan 14 nafar bemor kiritildi. Bemorlarning barchasida proksimal blok mavjudligi hisobga olinib, TJOXS amaliyoti bajarildi. Muolaja davomida o'ng va chap jigar o't yo'llari alohida kontraslandi va drenaj yo'nalishi individual anatomik xususiyatlardan kelib chiqib tanlandi. 13 nafar bemorda o'ng va chap jigar o't yo'llariga drenaj naychalari bir vaqtda o'rnatildi. 1 nafar bemorda dastlab faqat o'ng tomonlama obstruksiya aniqlanib, bir tomonlama drenaj bajarildi, ammo 10 kundan so'ng

sariqlik kuchaygani sababli qayta murojaat qilgan va qo'shimcha ravishda chap o't yo'liga ham drenaj o'rnatildi. Muolajadan oldin bemorlarda: Umumiy bilirubin miqdori o'rtacha 280,4 mkmol/l ni tashkil etdi. Bog'langan bilirubin miqdori 210,6 mkmol/l bo'ldi. TJOXS amaliyotidan so'ng (10 kundan): Umumiy bilirubin 180,5 mkmol/l gacha kamaydi, bog'langan bilirubin 120 mkmol/l gacha pasaydi. Ikki tomonlama bir vaqtda drenaj qo'yilgan bemorlarda sariqlik regressiyasi tezroq kuzatildi va qayta nayjalash ehtiyoji kamaydi. Bosqichma-bosqich drenaj qo'yilgan yagona bemorda esa klinik regressiya sust bo'lib, qo'shimcha drenajlash talab qilindi. Bismuth IV darajali Klatskin o'smalari juda kam uchraydi, ammo klinik jihatdan eng murakkab shakl hisoblanadi. O'ng va chap jigar o't yo'llarining alohida zararlanishi sababli yetarli drenaj hajmini ta'minlash asosiy vazifa bo'lib qoladi. Bizning kuzatuvlarimiz shuni ko'rsatdiki: O'ng va chap o't yo'llarini alohida kontraslash drenaj hajmini aniq baholash imkonini beradi. Ikki tomonlama bir vaqtda drenaj qilish bilirubin darajasining tezroq pasayishiga olib keladi. Bir tomonlama drenaj ba'zi hollarda yetarli bo'lmay, qayta drenajlashni talab qilishi mumkin. Shu sababli Bismuth IV darajasida optimal taktika sifatida bir vaqtda ikki tomonlama drenaj qo'yish ustunlik qiladi.

Xulosa: 1. Bismuth IV darajali Klatskin o'smalarida teri-jigar orqali xolangiografiya va xolangiostomiya samarali va xavfsiz kam invaziv drenaj usuli hisoblanadi; 2. Ikki tomonlama bir vaqtda drenaj qo'yish klinik va biokimyoviy regressiyani tezlashtiradi hamda qayta naycha qo'yish ehtiyojini kamaytiradi; 3. Bosqichma-bosqich drenaj faqat faqat alohida klinik ko'rsatmalar mavjud bo'lgandagina holatlarda qo'llanishi lozim.

Teri jigar orqali xolangiografiya va xolangiostomiya hamda endoskopik retrograd pankreatoxolangiografiyaning klinik samaradorligi va afzalliklari

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Xulosa: 1. Mexanik sariqlikda blok darajasini aniqlash davolash taktikasini tanlashda asosiy mezon hisoblanadi; 2. Proksimal bloklarda TJOXS yuqori klinik samaradorlik va kam asoratlar bilan ustunlikka ega; 3. Distal bloklarda ERPXG ichki drenajlash imkoniyati sababli birlamchi tanlov bo'lishi mumkin; 4. ERPXG muvaffaqiyatsiz holatlarda TJOXS ishonchli va samarali alternativ usul hisoblanadi; 5. Individual yondashuv va multidissiplinar qaror qabul qilish mexanik sariqlikni davolash natijalarini yaxshilaydi.

Minimally Invasive Surgical Treatment of Esophageal Cancer: A Single-Center Experience

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Background: Esophageal cancer remains a challenging oncologic disease requiring complex surgical management. Minimally invasive esophagectomy (MIE) has been increasingly adopted to reduce surgical trauma while maintaining oncological radicality.

Aim: To evaluate the feasibility, safety, and early postoperative outcomes of thoraco-laparoscopic esophagectomy in patients with esophageal cancer, and to compare perioperative results between the McKeown and Ivor Lewis minimally invasive techniques.

Materials and Methods: From 2020 to the present, 156 patients with esophageal cancer underwent minimally invasive esophagectomy. Among them, 62% were male and 38% female. All procedures were performed using a thoraco-laparoscopic approach. In 67% of cases, the McKeown esophagectomy was performed, utilizing three surgical accesses: laparoscopic,

thoracoscopic, and cervical. In the remaining patients, the Ivor Lewis procedure was carried out using two accesses: laparoscopic and thoracoscopic. All patients underwent two-field lymphadenectomy. Reconstruction was performed using a gastric conduit for esophageal replacement. In the Ivor Lewis group, intrathoracic side-to-side stapled anastomosis was constructed. In the McKeown group, cervical esophagogastric anastomosis was performed using circular stapling devices.

Results: Early postoperative complications occurred in 8 patients and included anastomotic leakage, pleural complications, and one case of mediastinitis. Postoperative mortality was observed in 4 patients. Patients have been followed up from 2020 to the present time.

Conclusion: Thoraco-laparoscopic esophagectomy for esophageal cancer is a feasible and oncologically adequate approach. Both McKeown and Ivor Lewis techniques demonstrated acceptable morbidity and mortality rates. Minimally invasive techniques allow radical resection with two-field lymphadenectomy and reliable reconstruction using a gastric conduit. Further long-term follow-up is required to evaluate survival outcomes.

Neoadjuvant chemotherapy squamous cell carcinoma of esophagus

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Objective: Esophageal cancer remains a significant oncological challenge in Kazakhstan, with squamous cell carcinoma representing more than 85% of cases and associated with risk factors such as smoking, alcohol consumption, and intake of hot food. Patients with locally advanced disease typically require multimodal treatment including preoperative therapy followed by surgery. However, outcomes remain suboptimal.
The aim of this study was to evaluate the efficacy of neoadjuvant chemotherapy with docetaxel, cisplatin, and 5-fluorouracil (DCF) compared with chemoradiotherapy using carboplatin and paclitaxel (CRT-PP) in patients with surgically resectable locally advanced esophageal squamous cell carcinoma (ESCC).

Materials: Patients with stage II–III ESCC were randomized in a 1:1 ratio to receive either neoadjuvant chemotherapy according to the DCF regimen or concurrent chemoradiotherapy (CRT-PP). The DCF protocol consisted of docetaxel 70 mg/m² and cisplatin 70 mg/m² administered on day 1, combined with 5-fluorouracil 750 mg/m² for five days, for a total of 4–6 cycles. The CRT-PP group received weekly paclitaxel 50 mg/m² and carboplatin (AUC 2) with concurrent radiotherapy to a total dose of 50.4 Gy in 28 fractions. After completion of neoadjuvant therapy, all patients underwent esophageal resection with D2 lymph node dissection.

Results: A total of 100 patients were included and equally distributed between the two treatment groups. The mean age was 58.6 years in the DCF group and 55.4 years in the CRT-PP group. Oneyear overall survival was comparable between groups, reaching 62.1% in the DCF arm and 63.3% in the CRT-PP arm. The hazard ratio for death in the DCF group compared with CRT-PP was 0.48 (92% CI, 0.50–0.92; p = 0.004). R0 resection was achieved in 92.2% of patients treated with DCF and in 90.8% of those receiving CRT-PP. Complete pathological response occurred in 57.2% of the DCF group and 48.7% of the CRT-PP group.

Me’da saratonida o’smaning tarqalishini aniqlashda laparoskopiyaning ahamiyati

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Maqsad: Keyinchalik optimal davolash strategiyasini tanlash uchun diagnostik laparoskopiya yordamida oshqozon saratoni bosqichini aniqlash.

Materiallar va usullar: 2020-yildan 2025-yilgacha Minimalinvaziv jarrohlik bo’limida 87 bemorga diagnostik laparoskopiya o’tkazildi. Organ metastazlari yoki retroperitoneal metastatik limfa tugunlari bo’lgan bemorlarga laparoskopiya o’tkazilmadi. Kasallikning dastlabki bosqichlarida tashxis qo’yilgan bemorlarga qo’shimcha invaziv tekshiruvlar yoki davolash usullarisiz rezektsiya qilindi. Klinik bosqichdagi cT2-4N0-3Mx kasalligiga chalingan bemorlarga KT yoki MRI orqali aniqlanmagan qorin parda metastazlarini istisno qilish va o’smaning rezektsiya qilinishini baholash uchun, ayniqsa o’smaning atrofdagi tuzilmalarga kirib borishi shubha qilingan bo’lsa, diagnostik laparoskopiya qilindi.

Natijalar: Jarrohlik amaliyotidan o’tgan bemorlarning o’rtacha yoshi 58.1±0,5 yoshni tashkil etdi. Erkaklar ustunligi 2,25:1 edi. 7 ta bemorda qorin bo’shlig’ini yuvishda saraton hujayralari aniqlandi, bu esa asosiy o’sma rezektsiya qilinishi mumkinligiga qaramay, IV bosqichdagi kasallikni ko’rsatadi. Ushbu bemorlarga operatsiyadan keyingi gipertermik qorin parda ichidagi kimyoterapiya bilan transperitoneal palliativ gastrektomiya qilindi. Keyinchalik bu bemorlarga yordamchi kimyoterapiya berildi. 33 bemorda qorin parda ichidagi o’sma tarqalishi kuzatildi: P3 ning 9 ta holati (1998 yilgi JGCA ma’lumotlariga ko’ra P-darajali qorin parda karsinomatozi) va 24 ta P1-P2 holati. Birinchi guruhda operatsiya organlarni olib tashlamasdan qorin bo’shlig’ini drenajlash bilan yakunlandi; ikkinchi guruhda operatsiyadan keyingi gipertermik qorin parda ichi kimyoterapiya bilan rezektsiya qilinadigan jarrohlik amalga oshirildi. Qolgan 47 bemordan 25 tasida o’sma serozaga tarqaldi, atrofdagi tuzilmalarga invaziya belgilari yo’q edi. Bu bemorlarga rezektsiya qilindi va keyin yordamchi kimyoterapiya qo’llanildi. 22 ta holatda o’smaning atrofdagi tuzilmalarga invaziyasi kuzatildi va ular quyidagi rejim bo’yicha davolandilar: neoadjuvant kimyoterapiya + jarrohlik + gipertermik qorin parda ichi kimyoterapiya va yordamchi kimyoterapiya.

Xulosa lar. Laparoskopiya oshqozon saratonini tashxislash va davolash usulini tanlashda, rezektsiya qilish qobiliyatini, rivojlanishini, hayot sifatini va umumiy yashovchanlikni yaxshilashda juda samarali ekanligi isbotlangan. Onkologiya klinikasi sharoitida bu usul endoskopik oshqozon rezektsiyalarini bajarishda yanada kengaytirishni talab qiladi.

ОПУХОЛИ ГОЛОВЫ И ШЕИ

Review of medullary thyroid carcinoma

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Aim of study. Medullary thyroid carcinoma (MTC) is a neuroendocrine tumor that represents <5% of all thyroid malignancies and is more aggressive than differentiated thyroid cancer. This review focuses on updates in biochemical testing, early diagnosis and hereditary disease. Matherial and methods. We evaluated the results of the calcitonin test analyzed in the laboratory of our center (National Center of Oncology) during 2018-2023. Over a 5-year

period, 1373 test resultswere reviewed, and 278 pathological results were detected. 100 of the pathological results were in men and 178 in women. Very high results (above 1000 pg/ml) were observed in 118 cases. The analyzes were performed on the Roche Cobas e601 fully automatic device using the ECLIA (electrochemiluminescence immunoassay) method. Normal values were <9.82 pg/ml for women and <14.3 pg/ml for men.

Results. We selected 66 patients and grouped their medical history, preoperative and postoperative calcitonin results, metastases and recurrences, and other diseases. Patients over 30-40 years of age predominated in terms of age. According to the calcitonin test43 (76.79%) patients with results up to 2000 pg/ml and 13 (23.21%) patients with results above 2000 pg/ml were noted. RET (Rearranged during Transfection) were analyzed in 16 patients, and the results were positive in 6 patients.

Conclusion. The prognosis of medullary thyroid cancer is better if it is detected in the early stages. Calcitonin analysis is informative not only for early detection, but also for monitoring the disease and for postoperative follow-up. Patients diagnosed with MTC should be screened for RET analysis to rule out hereditary forms. Relatives of patients with RET positive status should undergo follow-up examinations. Surgery performed at an early stage has a positive effect on the patient's survival time. Considering all the above, it is important to educate people, especially patients diagnosed with MTC.

Factors affecting treatment outcomes for malignant epithelial tumors of the salivary glands

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Relevance. In recent years, the incidence of salivary gland tumors in the structure of oncological morbidity remains unchanged and amounts to 1-5%. In the Kyrgyz Republic, more than 30 new cases of malignant tumors of the salivary glands are registered annually.

Objective: To determine the factors influencing the treatment results of patients with malignant epithelial tumors of the salivary glands.

Material and methods: 318 patients with malignant epithelial tumors of the salivary glands were included. With tumors of the parotid salivary glands in 246 cases (77.4%), submandibular salivary glands - 64 (20.1%) and minor salivary glands - 8 (2.5%). Detected at stage II of the disease - 104 (32.7%) patients; III - 122 (38.4%); IV - 92 (28.9%). Study results: Combined treatment of malignant epithelial salivary gland, including surgery and radiation, made it possible to live more than 5 years - 71.9 ± 4.2% of patients and with the use of radiation therapy and chemotherapy in 66.7 ± 5.5% of observations. The 5-year survival rate at stage II of the disease is 76.6±5.5%, at stage III - 60.5±9.6%, while at stage IV only 45.4±4.9% of patients were able to pass the threshold. Certain trends in improving survival rates are observed for mucinous epithelioma (74.1±2.6%) and adenoid cystic carcinoma (74.5±2.9%) of the salivary glands compared to papillary (71.3±2.2%) adenocarcinoma. In cases where the regional lymph nodes of the neck are not affected for more than 1 year, alive - 98.9±1.0%, and more than 2 years - 96.7±1.7%, was statistically significantly higher than in the presence of metastases - 66.2±7.4% and 64.3±6.0% (p<0.05), respectively.

Conclusions: Factors determining the size of the primary tumor, the stage of the disease, the location of the tumor, the chosen treatment method, and the presence or absence of metastases in the lymph nodes of the neck.

The purpose of the study is to find ways to improve the treatment methods for patients with advanced malignant tumors of the upper jaw and its sinus.

Material and methods: in our observation, there were 43 patients with malignant tumors of the maxillary sinus of stage III-IV of the disease.

Results: 13 patients underwent extended surgical interventions with subsequent radiation therapy. 27 patients underwent radiation therapy according to the radical program, 3 patients - palliative treatment. For the cancer of the maxillary sinus, metastasis by lymphogenous and hematogenous is characteristic. Regional metastases to the neck lymph nodes were detected in 7 patients, which accounted for 16.3%. The main areas affected were the submandibular and upper lymph nodes of the deep jugular group of the neck.

Conclusion: The combined method proved to be the most effective for the treatment of patients with stage III-IV maxillary sinus cancer, with a three-year survival rate of 56.5% and a five-year survival rate of 51.3%. The morphological form and extent of the primary tumor are the determining factors for the prognosis of treatment.

Клинико-морфологические и иммуногистохимические факторы выживаемости при первичной глиобластоме

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Актуальность. Несмотря на агрессивное течение глиобластомы, у части пациентов наблюдается продолжительная выживаемость. Выявление морфо- и иммуногистохимических факторов, ассоциированных с этим феноменом, имеет важное прогностическое и терапевтическое значение.

Цель. Оценить прогностическую значимость морфологических и иммуногистохимических характеристик первичной глиобластомы у пациентов с выживаемостью более 3 лет.

Материалы и методы. Проведено проспективное исследование 13 пациентов с первичной глиобластомой, проходивших лечение в Ташкентском областном филиале РСНПМЦОиР. Всем пациентам проведена операция (от биопсии до тотального удаления), после которой назначалась лучевая терапия (60 Гр) и химиотерапия темозоломидом (от 6 до 9 циклов). Выполнялись иммуногистохимические исследования (Ki-67, p53), определение уровня экспрессии VEGF, а также анализ мутаций IDH1/2.

Результаты. Продолжительность жизни свыше 36 месяцев наблюдалась у всех 13 пациентов. Средний возраст составил 44 года, а медиана выживаемости - более 40 месяцев. У 11 из 13 пациентов проводилось не менее 6 курсов темозоломида в первой линии, что достоверно ассоциировалось с длительной выживаемостью (p=0,016). Вторую линию терапии, включавшую продолжение курсов темозоломида либо назначение альтернативных режимов химиотерапии, получили 11 пациентов, что достоверно коррелировало с повышением общей выживаемости (p=0,017). Уровень экспрессии VEGF был высоким в 76,9% случаев. Мутации IDH1/2 выявлены лишь у одного пациента. ИГХ-маркеры (Ki-67, p53) демонстрировали умеренную активность (средний Ki-67 - 22%). Высокая сосудистая пролиферация и наличие некроза наблюдались у большинства образцов.

Выводы. Длительная выживаемость при первичной глиобластоме может быть обусловлена совокупностью факторов, включая молодый возраст, интенсивную химиотерапию и проведение второй линии лечения. Данные подчеркивают необходимость индивидуализации тактики терапии с учётом молекулярного профиля опухоли.

Пластика дефекта артериализированными лоскутами при расширенно комбинированных операции в области головы и шеи

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Введение:Расширенно-комбинированные операции при злокачественных новообразованиях области головы и шеи сопровождаются формированием обширных и сложных дефектов мягких тканей и костных структур. Восстановление анатомической целостности и функциональной полноценности данных зон представляет собой одну из наиболее трудных задач реконструктивной хирургии. Применение артериализированных лоскутов позволяет улучшить трофику тканей, снизить риск некроза и обеспечить более предсказуемые результаты реконструкции.

Цель исследования: Оценить эффективность применения артериализированных лоскутов для пластики дефектов после расширенно-комбинированных операций в области головы и шеи.

Объекты и методы исследования:В отделении «Опухолей головы и шеи» ТОФРСНМЦОиР за период с 2023 года по настоящее время 23-м пациентам в дооперационном периоде проводилась регионарная внутриартериальная аутоплазмохимиотерапия по схеме: кемоплат 50мг + 10,0 плазмы в/а в 1-й день, затем всем больным были выполнены радикальные операции с одномоментной пластикой дефекта кожномышечным артериализованными лоскутами на кивательной мышце и на большой грудной мышце – 18 больным.

Результаты исследования. У 7(30,1%) пациентов в послеоперационном периоде наблюдались воспалительные осложнения с образованием оростом, которые были ликвидированы консервативно в течении 20 дней. В оставшихся 16-ти случаях (69.5%) наблюдалось первичное заживление послеоперационной раны.

Заключение и выводы. Использование методики регионарной внутриартериальной аутоплазмохимиотерапии по предложенной схеме с последующей пластикой дефектов артериализованными лоскутами в комплексном лечении местно-распространенного рака дна полости рта позволяет добиться хороших анатомических, функциональных и эстетических результатов.

Клиническое значение радио-индуцированного мукозита у пациентов с опухолями головы и шеи при проведении лучевой терапии

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Актуальность. Радио-индуцированный оральный мукозит является одним из наиболее клинически значимых дозолимитирующих осложнений лучевой терапии у пациентов с опухолями головы и шеи. Повреждение быстро пролиферирующего эпителия слизистой оболочки приводит к воспалительно-деструктивным изменениям, сопровождающимся

выраженным болевым синдромом, дисфагией, нарушением питания и снижением функциональной активности. При проведении сочетанной химиолучевой терапии риск тяжёлых форм мукозита значительно возрастает вследствие усиления цитотоксического воздействия на слизистую оболочку.

Цель исследования — определить распространённость, степень тяжести и клиническое влияние радио-индуцированного мукозита на переносимость лечения и качество жизни пациентов с раком головы и шеи.

Материалы и методы. Проведено проспективное клиническое исследование пациентов, получавших лучевую терапию по поводу злокачественных новообразований головы и шеи. Оценка выраженности мукозита осуществлялась с использованием валидированных пациент-ориентированных инструментов OMDQ, FACT и FACIT. Мониторинг проводился до начала лечения, ежедневно в течение курса лучевой терапии и в течение четырёх недель после её завершения.

Результаты. Мукозит развился практически у всех пациентов независимо от локализации опухоли. У больных с опухолями полости рта и ротоглотки частота осложнения составила 99%, при этом тяжёлые формы (III–IV степень) выявлены у 85% пациентов. В группе опухолей гортани и гипофаринкса мукозит наблюдался у 98% больных, тяжёлое течение отмечено в 77% случаев. Максимальная выраженность поражения слизистой оболочки соответствовала шестой неделе лечения и сопровождалась достоверным снижением показателей качества жизни. Тяжесть мукозита ассоциировалась с ухудшением нутритивного статуса, необходимостью энтеральной поддержки и коррекцией противоопухолевой терапии. Доля пациентов, нуждавшихся в анальгетиках, увеличилась с 34% до 80% к периоду максимальной токсичности.

Выводы. Радио-индуцированный оральный мукозит существенно влияет на переносимость лучевой терапии, качество жизни и непрерывность лечения, что требует разработки персонализированных профилактических стратегий.

ОПУХОЛИ МОЧПОЛОВОЙ СИСТЕМЫ

Surgical and combined therapy in patients with kidney cancer

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Purpose of the Study. The aim of this study was to compare the effectiveness of radical nephrectomy and radical nephrectomy with adjuvant immunotherapy in patients with stage III (T3N0–1M0) renal cell carcinoma and to evaluate two-year overall survival and disease-free survival outcomes as well as major prognostic factors influencing prognosis.

Materials and Methods. The study included 56 patients with morphologically confirmed stage III renal cell carcinoma treated between 2017 and 2023. All patients underwent comprehensive diagnostic evaluation to exclude distant metastases. The mean age was 58.4 ± 9.6 years. Clear cell carcinoma predominated (73.2%). According to TNM classification, 28 patients had T3a, 20 had T3b, and 10 had T3c stage disease, while lymph node involvement (N1) was detected in 19 patients. Group 1 (n=22) underwent radical nephrectomy only. Group 2 (n=34) received radical nephrectomy followed by adjuvant pembrolizumab. Primary endpoints were two-year overall survival (OS) and disease-free survival (DFS).

Results. Recurrence occurred in 9 patients (40.9%) in the surgery-only group and in 4

patients (16.7%) in the combined therapy group. Two-year DFS was 59.1% in Group 1 and 83.3% in Group 2. Local and distant metastases were observed in 40.9% of patients in Group 1 compared to 16.7% in Group 2. Two-year OS was 72.7% in the surgery-only group and 88.9% in the combined treatment group. Venous invasion, lymph node involvement, and high tumor grade were identified as adverse prognostic factors.

Conclusion. Adjuvant immunotherapy significantly improved disease-free survival and reduced recurrence compared to surgery, with a positive overall survival trend, especially in high-risk stage III patients.

Metastatik renal hücreli karsinomda nivolumab tedavisi alan hastalarda prognostik nutrisyonel indeksin sağkalım üzerindeki prognostik değeri

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Amaç: Programlanmış hücre ölümü-1 inhibitörü olan nivolumab, metastatik renal hücreli karsinom (mRHK) tedavisinde önemli bir yer edinmiştir. Diğer sistemik enflamatuar belirteçler gibi prognostik nutrisyonel indeksin (PNI) de çeşitli kanser hastalarında prognostik bir faktör olduğu gösterilmiştir. Bu çalışmada, nivolumab tedavisi alan mRHK hastalarında PNI'nin sağkalım üzerine etkisini araştırmayı amaçladık. Gereç- Yöntem: Aralık 2013 ile Ağustos 2024 tarihleri arasında nivolumab tedavisi alan mRHK tanılı hastaların dosyaları tarandı. 80 hasta çalışmaya dahil edildi. Hastaların %73 'ü erkek ve yaş ortalaması 58,5 idi. PNI, albümin ve lenfosit sayısı kullanılarak hesaplandı. Prognostik kesim değeri ROC analizi ile belirlendi ve PNI cut-off değeri 45 olarak alındı. Hastalar PNI değerine göre PNI <45 (PNI düşük grup) ve PNI ≥ 45 (PNI yüksek grup) olmak üzere iki gruba ayrıldı.

Bulgular: Çalışmamızda, PNI düzeyine göre nivolumab tedavisini uygulama basamağı değerlendirildiğinde, PNI yüksek grup ve PNI düşük gruplarında benzer bir dağılım gözlenmiştir. Her iki grupta da nivolumab en sık 2. ve 3. Basamak tedavi olarak uygulanmıştı, PNI düşük grupta sırasıyla %50(n=15) ve %37(n=11) oranında, PNI yüksek grupta ise %54(n=27) ve %24(n=12) oranında kullanılmıştır. Tedavi öncesi, PNI düşük grup olan hastalarda median Ortalama Sağkalım (OS) 10,2 ay iken, PNI yüksek grup olan hastalarda median OS 20,1 ay olarak hesaplandı (p<0.012). PNI düşük grup olan hastalarda median Progresyonsuz Sağkalım(PFS) 5,5 ay iken, PNI yüksek grup olan hastalarda median PFS 11,7 ay olarak hesaplandı (p<0.009). Yüksek PNI değerine sahip hastaların, immünoterapiden daha fazla yarar sağladığı ve daha uzun sağkalım süresine sahip olduğu bulundu.

Sonuç: Bu çalışma, nivolumab tedavisi alan mRHK hastalarında PNI'nin prognostik bir belirteç olabileceğini göstermektedir. Düşük PNI değerine sahip hastalar, daha kısa sağkalım süreleri ile ilişkilendirilmiştir. PNI, kolay, basit ve uygulanabilir bir belirteç olarak immünoterapiye yanıtı öngörmede kullanılılabilir. Daha geniş kapsamlı ve prospektif çalışmalara ihtiyaç duyulmaktadır.

Renal Hücreli Karsinomda Sunitinib ve Pazopanib'in Klinik Etkinlik ve Tolerabilite Açısından Karşılaştırılması

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Amaç: Renal hücreli karsinom (RCC), erişkinlerde en sık görülen böbrek kanseridir ve sıklıkla ileri evrede tanı alır. Metastatik RCC tedavisinde immün kontrol noktası inhibitörleri tercih edilse de, erişim sorunları veya kontrendikasyonlar nedeniyle tirozin kinaz inhibitörleri (TKİ) kullanılmaktadır. Bu çalışmada, RCC tedavisinde yaygın kullanılan sunitinib ve pazopanib'in etkinlik ve tolerabilite profilleri karşılaştırılmıştır.

Gereç ve Yöntem: Histolojik olarak RCC tanılı, 18 yaş üzeri ve tedavisinde sunitinib veya pazopanib kullanılan 114 hasta retrospektif olarak değerlendirilmiştir. Kombinasyon tedaviler dışlanmıştır. Sağkalım analizleri Kaplan–Meier yöntemiyle, grup karşılaştırmaları Log-Rank testi ile yapılmış; prognostik faktörler Cox regresyon modeliyle analiz edilmiştir. Bulgular: Hastaların 80'i (%70,2) sunitinib, 34'ü (%29,8) pazopanib kullanmıştır. Tedavi yanıt oranları iki grup arasında benzer bulunmuştur. Ortanca progresyonsuz sağkalım (PFS) sunitinib grubunda 11,1 ay, pazopanib grubunda 12,2 ay; ortanca genel sağkalım (OS) sırasıyla 18,1 ay ve 17,4 ay olarak saptanmıştır. PFS (p=0,278) ve OS (p=0,403) açısından anlamlı fark görülmemiştir. Ancak yan etki sıklığı ve doz değişikliği gereksinimi sunitinib grubunda anlamlı olarak daha yüksek bulunmuştur (p=0,019).

Sonuç: Sunitinib ve pazopanib arasında etkinlik ve sağkalım açısından anlamlı fark saptanmamıştır. Ancak tolerabilite açısından pazopanib daha avantajlı görünmektedir.

Clinical significance of immunohistochemical marker expression in localized and disseminated clear cell renal cell carcinoma

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Actually: To assess the clinical significance of the expression of VEGF, CD44, P53 and MMP-9 oncomarkers in localized and disseminated clear cell renal cell carcinoma.

Objective: To conduct a comparative analysis of the expression of Ki-67, cyclin D1, E-cadherin, CD44, MMP-9, VEGF, P53 in clear cell renal cell carcinoma, depending on the degree of malignancy. Materials and methods: The study material was histological specimens obtained after surgery from 45 patients diagnosed with clear cell renal cell carcinoma. 20 patients were diagnosed with locally advanced cancer (T1-2N0M0) and 25 patients with metastatic cancer (T3- 4N0M1). For immunohistochemical analysis, the samples were fixed in 10% neutral formalin for 24 hours and embedded in paraffin. IHC reactions were performed on an Autostainer 450 S immunohistostainer (Thermo Fisher Scientific). UltraVision Quanto Detection System (Thermo Fisher Scientific) was used as the chromogen and DAB as the antibody.

Results: The level of proliferative activity in clear cell renal cell carcinoma was generally low, but the level of P53 oncomarker was higher in metastatic cancer compared to local cancer. Also, the hyperexpression of Cyclin D1 was observed in metastatic renal cell carcinoma at a rate of 68±3.8%. In locally advanced cancer, 14.2±2.4% were observed and P<0.05. In disseminated renal cell carcinoma, compared to the locally advanced type, epithelial-mesenchymal transformation processes were found to be higher. (An increase in CD44 expression by 17.3%, a decrease in E-cadherin expression by 24% was observed P < 0.05), as well as activation of neoangiogenesis processes (an increase in VEGF expression by 32% was detected and P < 0.05).

Conclusion: It was concluded that the transition of clear cell renal cancer from locally advanced to disseminated type is accompanied by hyperexpression of cyclin D1, a decrease in E-cadherin expression (an increase in epithelial-mesenchymal transformation markers), and an increase in CD44 and VEGF expression.

Stromal gene expression predictive of meta static primary prostate cancer

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The purpose of the study. To identify an effective prognostic signature that can better distinguish between indolent and aggressive prostate cancer. Design, conditions and participants of the study. To develop the signature, whole genome and whole transcriptome were sequenced on five prostate cancer models with xenographs from patients (PG) obtained from independent foci of a single primary tumor and demonstrating different metastatic phenotypes. Several independent clinical cohorts, including the intermediate risk cohort, were used to validate biomarkers. Determination of results and statistical analysis Metastasis after radical prostatectomy was the outcome that determined aggressive prostate cancer. A general linear model with lasso regularization was used to construct a 93-gene stromal metastasis signature (SDMS). The association between SDMS and metastasis was assessed using the Wilcoxon rank sum test. Efficiency was evaluated using the area under the curve (AUC) for receiver performance and Kaplan-Meyer curves. Univariable and multivariable regression models were used to compare SDMS with clinical histological variables and other signatures. AUC was evaluated to determine whether SDMS is additive or synergistic with respect to other previously defined signatures.

Results and limitations. There was a close association between stromal gene expression and metastatic phenotype. Accordingly, SDMS was modeled and validated in several independent clinical cohorts. Patients with high SDMS scores, as it turned out, had a worse prognosis. Moreover, SDMS was an independent predictive factor, was able to stratify the risk of intermediate-risk prostate cancer, and can improve the effectiveness of other previously presented signatures.

Conclusion. Profiling of stromal gene expression led to the development of SDMS, which has been validated as an independent prognostic factor for the metastatic potential of prostate tumors.

САРКОМЫ, ОПУХОЛИ КОСТЕЙ И МЯГКИХ ТКАНЕЙ

Combined treatment of giant cell tumor of bone using targeted therapy (denosumab) and surgical intervention: a clinical analysis

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Aim: To evaluate the clinical effectiveness of combining Denosumab therapy with various surgical techniques in patients with GCTB of different localizations.

Materials and Methods: A study was conducted on 81 patients (32 males, 49 females; aged 25–62 years) treated at the Republican Specialized Scientific and Practical Medical Center of Oncology and Radiology of Uzbekistan (2016–2020). The cohort included tumors of the lower limbs (n=54), upper limbs (n=18), and other localizations (n=9). Histology confirmed benign GCTB in 82.7% and malignant variants in 17.3% of cases. Patients were divided into

three groups: 1. Denosumab + curettage + cementoplasty (n=17). 2. Denosumab + curettage + cementoplasty with internal fixation (n=42). 3. Surgery only (curettage + cementoplasty) without targeted therapy (n=22). Denosumab was administered at a dose of 120 mg (days 1, 8, 15, and 28 of the first month, followed by monthly injections) for a total of 8–16 doses.

Results: Targeted therapy led to significant pain reduction in 93.2% of patients (55/59) and tumor size reduction in 91.5% (54/59). Radiographic and CT monitoring showed cortical layer restoration and the formation of dense sclerotic margins in patients receiving Denosumab. Long-term follow-up (5 years) revealed: • A recurrence rate of 11.7% (2/17) in Group 1. • 0% recurrence (0/42) in Group 2 (combined therapy with metal osteosynthesis). • A significantly higher recurrence rate of 36.3% (8/22) in Group 3 (surgery only). In cases of pathological fractures (n=8), total joint replacement was performed followed by adjuvant Denosumab, resulting in stable functional outcomes. No severe side effects, such as osteonecrosis of the jaw or symptomatic hypocalcemia, were recorded.

Conclusion: The combination of Denosumab with surgical curettage and cementoplasty is highly effective for GCTB. Neoadjuvant targeted therapy promotes tumor devitalization and bone consolidation, facilitating limb-salvage procedures and significantly reducing the risk of local recurrence compared to surgery alone.

Endoprosthetic replacement for primary malignant tumors of the proximal femur: analysis of surgical strategy and functional outcomes

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Aim. To evaluate the efficacy and oncological safety of endoprosthetic replacement in the management of post-resection defects of the proximal femur in patients with primary tumors and tumor-like lesions.

Materials and Methods. A retrospective analysis was conducted on 46 patients (29 males, 17 females) aged 16 to 63 years (mean age — 47 years). Malignant processes were diagnosed in 86.9% of cases (giant cell tumor — 17, chondrosarcoma — 11, osteosarcoma — 6, etc.). In 65.2% of patients, the disease was complicated by a pathologic fracture. All patients underwent proximal femoral resection (resection length ranging from 5 to 25 cm) followed by immediate or delayed reconstruction using modular systems (Aesculap, SMR, Wagner Revision). The follow-up period ranged from 1 to 19 years.

Results. The limb-salvage nature of the surgery allowed for early patient mobilization on the 3rd–4th postoperative day. Functional outcomes, assessed by the MSTS (Musculoskeletal Tumor Society) score at 6–24 months, were rated as excellent in 25 patients (54.3%) and good in 20 (43.4%). The overall complication rate was 17.3% (8 cases), including prosthetic dislocations (8.6%), periprosthetic infection (6.5%), and aseptic loosening (2.2%). Local tumor recurrence occurred in 3 cases (6.5%), which was associated with initial pathologic fractures and tumor dissemination. The mortality rate related to disease progression was 8.7%.

Conclusion. Endoprosthetic replacement of the proximal femur is an effective medical rehabilitation method, providing restoration of limb weight-bearing capacity in 97.7% of patients. Meticulous preoperative planning, precise determination of implant morphometric parameters, and the use of dual-mobility components help minimize specific complications. The presence of a pathologic fracture is an unfavorable prognostic factor, requiring extended resection margins to ensure oncological radicality.

Outcomes of reconstructive surgery for tumors of the bone forming the knee joint using a novel native endoprosthetic design

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Aim: To evaluate the clinical, functional, and oncological outcomes of knee joint reconstructions using a newly developed, patented native endoprosthesis design.

Materials and Methods: A prospective study was conducted on 21 patients (11 males, 10 females; age range 16–38 years) treated at the Republican Specialized Scientific and Practical Medical Center of Oncology and Radiology. The cohort included cases of osteosarcoma (n=12), giant cell tumor (n=3), and other rare bone malignancies. In 17 cases, the tumor was localized in the distal femur, and in 4 cases in the proximal tibia. The diagnostic protocol integrated CT, MRI with 3D modeling, and mandatory morphological verification via open biopsy. Patients with high-grade sarcomas received 3–5 cycles of neoadjuvant chemotherapy. All patients underwent limb-salvage surgery with the implantation of a custom-made, fixed-hinge titanium alloy endoprosthesis.

Results: Precise preoperative 3D planning ensured adequate compensation for massive post- resection defects in all cases. Over a follow-up period of 13 to 60 months, the overall complication rate was low. Aseptic loosening of the prosthetic stem was observed in 2 patients (9.5%), necessitated by extreme resection lengths (24 cm) in one case; both were successfully managed with revision surgery. One case of local soft tissue recurrence (4.7%) was recorded and surgically excised without functional loss. According to the Musculoskeletal Tumor Society (MSTS) scoring system, excellent and good functional results were achieved in 100% of cases, with scores ranging from 80–90% for femoral reconstructions and 75–80% for tibial reconstructions.

Conclusion: The novel native fixed-hinge endoprosthesis demonstrated high biomechanical stability and biological compatibility. Its implementation allows for immediate restoration of weight-bearing capacity and joint mobility even after extensive bone loss. This domestic development provides a high-quality, accessible alternative to foreign analogues, significantly improving the quality of life and functional rehabilitation of bone cancer patients in the region.

Surgical Treatment of Pelvic Bone Tumors

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Introduction: Pelvic bone sarcomas are extremely rare malignant tumors. Patients require a multidisciplinary approach to treatment planning due to the complexity of surgical resections and reconstructions, which are frequently associated with complications, revision surgeries, and functional limitations.

Materials and Methods: The study included 112 patients with pelvic bone tumor lesions. Of these, 74 underwent diagnostic procedures and 38 underwent radical surgical treatment. Malignant tumors were identified in 58 patients (51.7%), benign tumors in 46 (41.1%), and non-

neoplastic processes in 8 (7.1%). The tumor process was primary in 66 cases (58.9%), recurrent in 28 (25.0%), and metastatic in 18 (16.1%). The patients age ranged from 16 to 79 years (mean age: 44 years). Among the tumor types, chondrosarcoma was the most common (18 cases, 16.1%), followed by osteochondral exostosis (14 cases, 12.5%), osteosarcoma (4 cases, 3.6%), and Ewing's sarcoma (2 cases, 1.8%). Metastatic lesions accounted for 4 cases (3.6%), and carcinoma metastases for 12 cases (10.7%). Surgical Procedures (Enneking classification): Internal hemipelvectomy (Type I): 18 cases (23.7%), type III and type III+III: 9 cases (23.7%), marginal resection of pelvic bones: 9 cases (23.7%), type I+II+III and type I+IV: 6 cases each (15.7%), type II+III: 3 cases (7.9%), hindquarter amputation (external hemipelvectomy): 3 cases (7.9%), type I+II+III+IV: 2 cases (5.3%), pelvic arthroplasty (LUMIC type): 2 patients

Results: All 112 patients were discharged. Infectious complications were observed in 18 patients (16.1%), and 2 patients required repeat surgical intervention for wound debridement. In the chondrosarcoma group, the 5-year progression-free survival rate was 52.9%.

Conclusions: Pelvic resections remain associated with a high complication rate. Patients undergoing pelvic reconstruction and those with large tumor volumes are at particularly high risk. Although wide resection with reconstruction provides relatively favorable survival outcomes, complications are frequent and functional results are often suboptimal.

Prognostic Significance of Clinical and Immunohistochemical Markers in Soft Tissue Sarcomas

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Purpose. To evaluate clinical, morphological and immunohistochemical characteristics of soft tissue sarcomas (STS) and to determine their prognostic significance for recurrence and metastasis in patients treated with radiotherapy.

Materials and Methods. A retrospective analysis was conducted in 101 patients with morphologically verified soft tissue sarcomas treated at RSSPMCOR (2015–2024). Tumors were staged according to TNM and graded (G1–G3) per WHO (2020). Immunohistochemical evaluation included Ki-67, VEGF, and Bcl-2 expression. Recurrence and metastasis rates were analyzed, and recurrence-free survival was assessed using the Kaplan–Meier method.

Results. Lower extremities represented the most frequent localization (54.3%). Organ-preserving surgery combined with radical radiotherapy was the predominant treatment approach (57.9%). Local invasion into adjacent structures was detected in 63.4% of cases, particularly in fibrosarcoma (14.9%), round-cell sarcoma (7.9%), and rhabdomyosarcoma (6.9%). Early recurrence (≤3 months) was predominantly associated with G3 tumors (12.9%). Recurrence was absent in 53.5% of patients. Early metastases (≤6 months) were observed mainly in high-grade sarcomas, particularly G3 (6.9%). Kaplan–Meier analysis demonstrated lower recurrence-free survival among patients with high Ki-67 and high Bcl-2 expression. At 36 months, recurrence-free survival decreased to approximately 0.60–0.65 in patients with high Ki-67 and Bcl-2 expression, whereas VEGF showed an intermediate prognostic effect (~0.70). High Ki-67 (≥40%) and VEGF (≥50%) were associated with early metastasis within the first 12 months. Bcl-2 showed a dual prognostic pattern: high expression correlated with early progression, while moderate levels (20–49%) were associated with delayed metastasis.

Conclusion. Soft tissue sarcomas demonstrate strong correlations between tumor size, grade, immunohistochemical profile, and clinical outcomes. High-grade (G3) tumors and

elevated expression of Ki-67, VEGF, and Bcl-2 are associated with aggressive biological behavior, early recurrence, and reduced recurrence-free survival. Combined clinical, morphological, and immunohistochemical assessment enables risk stratification and supports individualized radiotherapy strategies in STS patients.

Outcomes of shoulder joint endoprosthetics for proximal humerus tumors

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Aim: To comprehensively evaluate the clinical, functional, and oncological outcomes of shoulder joint reconstruction using metallic endoprostheses following segmental resection for both primary and metastatic tumors of the proximal humerus, while assessing complication rates and long-term survival of the implants.

Materials and Methods: A clinical study was conducted involving 52 patients (22 males, 30 females) treated between 2007 and 2025. The age range was 16–72 years (mean: 36), with 72.2% of the cohort being under 40 years old. All patients underwent segmental resection of the proximal humerus with resection lengths ranging from 5 to 15 cm. Defects were replaced using metallic endoprostheses, including novel patented designs. The histological profile was diverse: benign giant cell tumor (n=21), malignant giant cell tumor (n=9), osteosarcoma (n=7), chondrosarcoma (n=6), and metastatic lesions from renal, breast, and thyroid carcinomas (n=5). Diagnostic protocols integrated X-ray, MSCT, MRI, and PET/CT. Immunohistochemical analysis was performed in 26.9% of cases.

Results: Postoperative complications were recorded in 6 patients (11.5%), categorized into orthopedic issues (n=3), such as prosthetic head dislocation and stem instability, and infectiousinflammatory cases (n=3). Revision surgery was required in four cases, while one patient required prosthesis removal due to persistent fistula. Local recurrence occurred in 3.8% of patients (n=2), and lung metastases were identified in 9.6% (n=5). Subjectively, 80% of patients reported complete relief from oncological pain. Functional evaluation via the MSTS (Enneking) scoring system demonstrated excellent outcomes in 12 patients, good in 35, and satisfactory in 7.

Conclusion: Shoulder joint endoprosthetics is an effective and reliable limb-salvage method for managing massive bone defects of the proximal humerus. The technique provides stable joint reconstruction, high rates of pain relief, and superior functional recovery compared to traditional resection. It remains the treatment of choice for ensuring rapid rehabilitation and long-term functional stability in oncological patients.

Correlation between TNM stages and survival outcomes in bone and cartilage sarcomas

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Objective: To evaluate the relationship between TNM stages and 3- and 5-year overall survival in patients with bone and cartilage sarcomas.

Materials and Methods: A retrospective analysis included 92 patients with histologically

confirmed bone and cartilage sarcomas treated between 2018 and 2024. Patients were stratified according to TNM staging: Stage I — 18 (19.6%), Stage II — 32 (34.8%), Stage III — 28 (30.4%), Stage IV — 14 (15.2%). Overall survival was calculated using the Kaplan–Meier method, and differences between groups were assessed using the log-rank test.

Results: The 3-year overall survival rates were: Stage I — 88.9%, Stage II — 71.9%, Stage III — 50.0%, Stage IV — 21.4%. The 5-year overall survival rates were: Stage I — 77.8%, Stage II — 59.4%, Stage III — 32.1%, Stage IV — 14.3% (p<0.01Patients with higher-stage disease and metastases showed significantly increased risk of recurrence and mortality.

Conclusion: TNM stage is an independent prognostic factor in bone and cartilage sarcomas. Survival outcomes decrease significantly with advancing stage: 5-year overall survival in Stage III–IV patients was 2–5 times lower than in Stage I–II. These findings are clinically relevant for risk stratification, individualized treatment planning, and determining the extent of adjuvant therapy.

Prognostic significance of histological structure in bone and cartilage sarcomas

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Objective: To evaluate the distribution of histological types of bone and cartilage sarcomas and their impact on overall survival.

Materials and Methods: A retrospective analysis included 84 patients treated between 2018 and 2023. According to histological classification, osteosarcoma accounted for 38 cases (45.2%), chondrosarcoma for 26 cases (31.0%), and Ewing sarcoma for 20 cases (23.8%). Tumor grade (G1– G3), presence of metastasis, and recurrence rates were analyzed. Overall survival was assessed using the Kaplan–Meier method.

Results: The 5-year overall survival rate was 61.5% for chondrosarcoma, 44.7% for osteosarcoma, and 39.8% for Ewing sarcoma. According to tumor grade, the 5-year survival was 68.4% in G1 tumors, 49.7% in G2, and 27.9% in G3 (p<0.05). Patients without metastases demonstrated a 5-year survival rate of 58.6%, compared to 22.4% in those with metastatic disease. Recurrence occurred 2.3 times more frequently in high-grade (G3) tumors than in low-grade tumors.

Conclusion: The findings indicate that histological type and tumor grade significantly influence survival outcomes. The 5-year survival rate in chondrosarcoma was 16.8% higher than in osteosarcoma and 21.7% higher than in Ewing sarcoma. High-grade (G3) tumors were associated with a 2.4-fold increase in mortality risk compared to G1 tumors. The presence of metastasis reduced overall survival by 36.2%. Therefore, histological grade and tumor type represent independent prognostic factors in bone and cartilage sarcomas. Risk stratification based on these parameters is essential for predicting outcomes, optimizing treatment strategies, and determining the need for adjuvant therapy.

Treatment strategies and stage-based outcomes in bone and cartilage sarcomas in the Fergana region

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Objective: To evaluate stage distribution and treatment approaches in patients with bone and cartilage sarcomas in the Fergana Valley and to assess their prognostic implications.

Materials And Methods: A retrospective analysis of regional oncological registry data for 2025 was performed. Patients diagnosed with malignant bone and cartilage tumors (ICD-10: C40–C41) were included. Stage at diagnosis and applied treatment modalities were analyzed. Treatment strategies were selected according to tumor stage and clinical condition.

Results: In 2025, 25 newly diagnosed cases of bone and cartilage sarcomas were identified. Stage distribution revealed predominance of stage II disease (70.8%), while stage I accounted for 8.3%, and advanced stages (III–IV) comprised 25% of cases. Patients with stage I–II disease primarily underwent combined treatment, including radical surgical resection with limb-preserving techniques followed by adjuvant chemotherapy. In selected early-stage cases, surgery alone was sufficient. Stage III patients received multimodal therapy consisting of surgery combined with systemic chemotherapy. In cases with locally advanced tumors, neoadjuvant chemotherapy was administered to reduce tumor volume prior to surgical intervention. Stage IV patients were managed mainly with systemic chemotherapy and palliative treatment approaches. Surgical intervention in advanced disease was limited to symptomatic indications. Early-stage patients demonstrated better clinical response and improved short-term outcomes compared to those diagnosed at advanced stages. Late-stage presentation was associated with increased risk of recurrence and reduced survival prospects.

Conclusion: Treatment outcomes in bone and cartilage sarcomas strongly depend on stage at diagnosis. Early detection enables radical surgery and combined therapy with more favorable prognosis, whereas advanced stages require complex multimodal or palliative approaches. Strengthening early diagnostic measures is essential to improve survival indicators in the region.

Efficacy of immunotherapy in patients with advanced melanoma harboring BRAF and NRAS mutations

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Objective. Immunotherapy has become a cornerstone of systemic treatment for advanced melanoma; however, clinical outcomes may vary according to tumor molecular profile. BRAF mutations occur in approximately 40–50% of cases and NRAS mutations in 15–25%, potentially influencing tumor biology and response to immune checkpoint inhibition. This study aimed to evaluate the efficacy of immunotherapy in advanced melanoma and to determine the prognostic impact of BRAF and NRAS mutations on progression-free survival (PFS) and overall survival (OS).

Materials and methods. Thirty patients with histologically confirmed unresectable stage III–IV melanoma were included. Comprehensive molecular testing was performed to assess BRAF and NRAS mutation status. Patients were stratified into three groups: BRAF mutation (n=17, 56.7%), NRAS mutation (n=9, 30.0%), and BRAF/NRAS dual mutation (n=4, 13.3%). All patients received immune checkpoint inhibitors, either anti–programmed death-1 (PD-1) monotherapy or combination immunotherapy. Efficacy endpoints included median PFS and 1-year OS. **Results.** Median PFS was 8.5 months in the BRAF-mutant group and 11.2 months in the NRAS-mutant group, while patients with dual mutations had a shorter median PFS of 6.0 months. The 1-year OS rate was 62.0% in the BRAF-mutant group, 77.8% in the NRAS-mutant group, and 52.0% in the dual-mutant group. Conclusions NRAS-mutant melanoma demonstrated more favorable outcomes under immunotherapy, suggesting enhanced immunogenicity and potential predictive relevance of NRAS status. In contrast, dual-mutant tumors were associated with inferior survival, indicating more aggressive tumor behavior. These findings underscore the clinical importance of molecular profiling in guiding immunotherapy strategies and may contribute to more personalized treatment approaches in advanced melanoma.

Сравнительная эффективность пембролизумаба и ниволумаба в лечении метастатической меланомы

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Меланома — агрессивная злокачественная опухоль меланоцитарного происхождения с высоким метастатическим потенциалом. Несмотря на то что она составляет около 1–2% всех онкологических заболеваний, меланома остаётся основной причиной смертности от рака кожи. Ежегодно в мире регистрируется более 320 000 новых случаев и свыше 55 000 летальных исходов. Прогноз существенно зависит от стадии заболевания: при локализованной форме 5-летняя выживаемость достигает 90–99%, тогда как при метастатической стадии исторически не превышала 10–15%. Внедрение ингибиторов PD-1 значительно улучшило результаты лечения и позволило увеличить 5-летнюю общую выживаемость до 40–45%. Цель исследования. Сравнить клиническую эффективность пембролизумаба и ниволумаба у пациентов с метастатической меланомой.

Материалы и методы. Проведён анализ данных клинических исследований и реальной клинической практики, включающих пациентов с III–IV стадией меланомы. Сформированы две группы: пациенты, получавшие пембролизумаб (n=45), и пациенты, получавшие ниволумаб (n=58). Основными критериями оценки являлись общая выживаемость (OS), безпрогрессивная выживаемость (PFS) и частота объективного ответа (ORR).

Результаты. Медиана OS составила 17,4 месяца в группе пембролизумаба и 20,0 месяцев в группе ниволумаба. Медиана PFS — 5,6 и 7,5 месяцев соответственно. Частота объективного ответа в обеих группах варьировала от 35 до 45%. Дополнительный анализ крупной когорты пациентов (n=88) продемонстрировал сопоставимые показатели общей выживаемости: 22,6 месяца для пембролизумаба и 23,9 месяца для ниволумаба (p=0,91). Статистически значимых различий между препаратами выявлено не было.

Выводы. Пембролизумаб и ниволумаб демонстрируют сопоставимую клиническую эффективность при метастатической меланоме. Выбор препарата должен основываться на индивидуальных характеристиках пациента, переносимости терапии и клинических особенностях течения заболевания.

ЛУЧЕВАЯ ТЕРАПИЯ И РАДИАЦИОННАЯ ОНКОЛОГИЯ

Dermatological Complications of Radiation Therapy in Patients with Skin Cancer

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Purpose. To evaluate the incidence, severity, and impact on quality of life of radiation-induced dermatitis in patients receiving RT for SC.

Materials and Methods. The study included 19 patients with histologically verified SC who underwent RT at the Tashkent Regional Branch of RSSPMCOR. The mean age of patients was 61.2±7.9 years. SCC was diagnosed in 12 patients (63.2%), and BCC in 7 patients (36.8%). Radiation therapy was delivered using conventional fractionation (2 Gy per fraction) to a total focal dose of 50–60 Gy depending on tumor localization and stage. Acute radiation dermatitis was assessed clinically according to severity (mild, moderate, severe). Quality of life (QoL) was evaluated before and after treatment using the FACT-G (Version 4) questionnaire, assessing physical, emotional, social, and functional well-being (0–4 scale per item).

Results. Radiation-induced skin reactions were observed in 14 patients (73.7%). Mild dermatitis developed in 5 patients (26.3%), moderate reactions in 6 patients (31.6%), and severe dermatitis in 3 patients (15.8%). No radiation-related life-threatening complications were recorded. Before RT, mean QoL scores were as follows: physical well-being - 9.8 points, emotional - 10.7 points, social - 9.4 points, and functional - 13.1 points. After completion of therapy complicated by radiation dermatitis, physical and emotional scores increased to 16.9 and 15.8 points respectively, reflecting tumor-related symptom control; however, functional well-being decreased to 10.2 points in patients with moderate and severe dermatitis. Despite temporary deterioration of skin condition, tumor regression or stabilization was achieved in 15 patients (78.9%). Clinical improvement of dermatological manifestations was noted within 3-4 weeks after completion of RT in the majority of cases.

Conclusion. Radiation dermatitis remains a frequent complication in patients undergoing RT for SC, occurring in nearly three-quarters of cases in our cohort. Although Early dermatological monitoring and supportive management are essential components of radiotherapy in order to maintain treatment continuity and improve patient outcomes.

Role of Radiation Therapy in Combined Treatment of Locally Advanced Skin Cancer

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Purpose. To assess the clinical effectiveness of radiation therapy in the combined and multimodal treatment of patients with locally advanced skin cancer.

Materials and Methods. The study included 32 patients with stage T3-4N1-2M0 skin cancer treated at the Tashkent Regional Branch of the Republican Specialized Scientific and Practical Medical Center of Oncology and Radiology. The mean age of patients was 59.4±8.7 years. Squamous cell carcinoma was diagnosed in 20 patients (62.5%), and basal cell carcinoma in 12 patients (37.5%). Stage T3 was observed in 14 cases (43.7%), while stage T4 was diagnosed in 18 patients (56.3%). Radiation therapy was delivered using conventional fractionation with

a single dose of 2 Gy to a total focal dose of 60 Gy (30 Gy to the primary tumor and 30 Gy to regional lymph nodes when indicated). Radiation therapy was applied as monotherapy in 14 patients (43.8%), combined with surgery in 10 patients (31.3%), and as part of multimodal treatment including surgery and chemotherapy in 8 patients (25.0%).

Results. Objective tumor regression was achieved in 21 patients (65.6%), stabilization of the disease in 6 patients (18.8%), and progression was noted in 5 cases (15.6%). Subjective clinical improvement, including reduction of pain, bleeding, and inflammatory symptoms, was observed in 22 patients (68.8%). In patients who received combined or multimodal treatment, local control rates reached 75.0%. Acute radiation reactions were mild to moderate and manageable in all cases.

Conclusion. Radiation therapy is an effective component of treatment for locally advanced skin cancer. Its integration into combined and multimodal therapeutic strategies significantly improves local tumor control and quality of life, particularly in patients with advanced disease stages.

Five-year outcomes of hypofractionated pelvic radiation therapy with concurrent chemotherapy and High Dose Rate Brachytherapy for locally advanced cervical carcinoma

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Purpose: Although hypofractionated external beam radiation therapy (H-EBRT) has been practiced for locally advanced cervical carcinoma, prospective evidence remains limited. We evaluated the role of H-EBRT in the definitive management of locally advanced cervical carcinoma in terms of toxicities and clinical outcomes.

Methods and materials: In this prospective trial, we analyzed the treatment outcomes of 72 patients with histologically confirmed cervical carcinoma treated between April 2020 and February 2021. Patients received H-EBRT of 44 Gy in 20 fractions over 4 weeks with an integrated boost of 56 Gy in 20 fractions to pelvic lymph nodes, and concurrent weekly cisplatin 40 mg/ m2. This was followed by brachytherapy of 22 Gy in 2 fractions delivered in 2 applications. Acute and late toxicities were recorded per Radiation Therapy Oncology Group Criteria. Locoregional recurrence-free survival, disease-free survival, and overall survival were estimated by the Kaplan- Meier method.

Results: Median patient age was 50 years. According to FIGO (International Federation of Gynecology and Obstetrics) 2018 staging, stages IIB, IIIA, IIIB, and IIIC1 were present in 31 (44%), 7 (9%), 8 (11%), and 26 (36%) patients, respectively. The median number of concurrent chemotherapy cycles was 3. Median overall treatment time was 5 weeks (range, 4-6 weeks). Acute grade ≥3 gastrointestinal, genitourinary, anemia, leukopenia, and thrombocytopenia toxicities occurred in 10 (20%), 3 (6%), 3 (6%), 4 (8%), and 3 (6%) patients, respectively. The median follow-up was 60 months (range, 24-66 months). Late grade 3 GI toxicities were seen in 5 (10%) patients. Late grade 3 genitourinary toxicities occurred in 1 (2%) patient. The 5-year overall survival was 77.8%, respectively.

Conclusions: H-EBRT followed by brachytherapy yields acceptable long-term clinical outcomes and late toxicities, albeit with slightly higher acute GI toxicity.

Immediate results of external beam radiotherapy for bone metastases from various malignant tumors

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Introduction: Bone metastases are a frequent complication of advanced malignant tumors, causing severe pain, reduced functional activity, and impaired quality of life. External beam radiotherapy (EBRT) is a key modality in palliative care, providing effective pain control and preventing skeletal complications. Optimal fractionation schedules for bone metastases remain debated.

Objective: To evaluate the immediate analgesic and functional outcomes of EBRT for bone metastases depending on fractionation regimen.

Materials and methods: The study included 172 patients: breast cancer — 92 (53.5%), lung cancer — 44 (25.6%), prostate cancer — 19 (11.0%), renal cancer — 17 (9.9%). EBRT was delivered as 3 Gy × 10 fractions, 5 Gy × 4 fractions, 6 Gy × 2 fractions, or 8 Gy × 2 fractions. Most commonly affected sites were thoracic and lumbosacral spine (61.2%) and pelvic bones (22%). Pain intensity and functional status were assessed post-treatment. Statistical significance was set at $p < 0.05$.

Results: Overall analgesic effect with hypofractionated regimens (5 Gy × 4; 6 Gy × 2; 8 Gy × 2) was 81.2–81.4%, significantly higher than 63.2% for 3 Gy × 10 ($p < 0.05$). Complete pain relief occurred more frequently with single doses of 6–8 Gy (26.8%) than 14.5% in 5 Gy × 4 and 2.2% in 3 Gy × 10 ($p < 0.05$). Functional improvement was observed in 12–15% of patients, independent of fractionation. An inverse correlation existed between the extent of metastatic lesions and pain regression.

Conclusion: Hypofractionated EBRT (6–8 Gy per fraction) provides superior analgesic outcomes compared with conventional fractionation (3 Gy × 10) in bone metastases. These results support the use of hypofractionated schedules in palliative radiotherapy for faster and more effective pain relief.

Predictive and Prognostic Significance of p53, Ki-67, and VEGF in Locally Advanced Rectal Cancer Treated with Neoadjuvant Chemoradiotherapy

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Relevance. Despite standardization of neoadjuvant chemoradiotherapy (CRT), the rate of pathological complete response (pCR) in locally advanced rectal cancer remains variable. Identification of immunohistochemical biomarkers predicting treatment response and recurrence risk remains clinically important. p53, Ki-67, and VEGF reflect key mechanisms of tumor biology, including cell cycle regulation, proliferation, and angiogenesis.

Objective. To evaluate the predictive and prognostic significance of p53, Ki-67, and VEGF expression in patients with locally advanced rectal cancer treated with neoadjuvant CRT.

Methods. This retrospective study included 58 patients treated between 2019 and 2024. All received neoadjuvant CRT (50.4 Gy using IMRT/VMAT with capecitabine) followed by total mesorectal excision. Immunohistochemical assessment of p53, Ki-67, and VEGF was performed on pretreatment biopsy specimens. The cutoff value for Ki-67 was ≥30%, and for

VEGF an H-score ≥150. Univariate and multivariate analyses were performed with calculation of odds ratios (OR) and hazard ratios (HR).

Results. High Ki-67 expression was observed in 55.2% of patients and was associated with a higher pCR rate (25.0% vs 11.5%; OR=3.2; p=0.045) and improved tumor regression (p=0.011). Aberrant p53 expression (47.6%) correlated with a lower probability of complete response (10.7% vs 26.7%; p=0.055) and poorer regression (p=0.027). High VEGF expression (43.1%) was associated with unfavorable regression (36.0% vs 69.7%; p=0.009). Median follow-up was 34 months. Three-year disease-free survival (DFS) was 68% with high Ki-67 versus 52% with low expression (p=0.038), and 49% with high VEGF versus 71% with low VEGF (p=0.030). In multivariate analysis, VEGF and p53 retained independent adverse prognostic significance, whereas high Ki-67 demonstrated a protective effect (HR=0.64; p=0.041).

Conclusions. Combined evaluation of p53, Ki-67, and VEGF improves prediction of response to neoadjuvant CRT and recurrence risk, supporting a personalized treatment strategy.

Peptide Targeted Radionuclide Therapy with Radiolabelled FAP 2286: Four Year Clinical Experience in Difficult to treat FAP Expressing Solid Tumours

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Background: Fibroblast activation protein (FAP) is highly expressed in cancer associated fibroblasts within the tumor microenvironment of several aggressive malignancies, including pancreatic, breast, colorectal, gastric, lung, hepatocellular, ovarian, sarcomas, and head and neck cancers. Its presence is linked to tumor progression, angiogenesis, epithelial–mesenchymal transition, immune escape, and resistance to conventional therapies, often correlating with poor prognosis. Radiopharmaceuticals targeting FAP have recently emerged as promising agents for both imaging and therapy. This study reports three years of clinical experience with FAP 2286 theranostics in a tertiary cancer center in India, establishing proof of concept and evaluating efficacy and safety.

Methods: Patients with relapsed or refractory disease, unresponsive to standard treatment, were enrolled if ≥80% of lesions demonstrated uptake on FAP-2286 PET/CT. Fifty six patients who received at least two cycles of radiolabeled FAP 2286 were analyzed. Therapy involved Lutetium-177 (n=46), Actinium-225 (n=8), or tandem administration (n=2). Based on multidisciplinary tumor board recommendations, patients received either monotherapy (n=14) or combination therapy with targeted or immunotherapy agents (n=42).

Results: Monotherapy achieved a positive response in 85.7% of cases, with mean and maximum progression free survival (PFS) of 3.5 and 5.0 months, respectively. Combination therapy yielded a higher response rate of 92.9%, with mean and maximum PFS of 8.1 and 13.0 months. Hematologic toxicity (grade 1–2) was the most frequent adverse event, occurring in 28.6% of monotherapy and 45.2% of combination therapy patients. Grade 3–4 hematotoxicity was more common with combination therapy (21.4%) compared to monotherapy (14.3%). Actinium-225 labelled FAP-2286 demonstrated faster and more durable responses.

Conclusion: FAP-2286 theranostics represents a viable salvage option for patients with refractory FAP expressing malignancies, offering palliation, improved quality of life, and survival benefit. Combination strategies enhance durability of response, while Actinium-225 conjugates show promise for sustained disease control. Prospective trials are warranted to validate these findings.

Whole Abdomen Irradiation (WAI): Brief Overview and Initial Institutional Experience

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Background. Whole Abdomen Irradiation (WAI) is a radiotherapy technique used in the management of disseminated intra-abdominal malignancies, including ovarian cancer and pediatric nephroblastoma. Early clinical applications of WAI were associated with considerable treatment-related toxicity due to limited imaging and planning technologies, which restricted the ability to spare normal tissues. Advances in linear accelerator technology, computerized treatment planning systems, three-dimensional conformal radiotherapy (3D-CRT), and intensitymodulated radiotherapy (IMRT) have significantly improved dose conformity and reduced irradiation of organs at risk. More recently, proton therapy has emerged as an advanced modality aiming to further decrease long-term toxicity, which is particularly important in pediatric oncology.

Materials and Methods. Four pediatric patients aged 2–4 years with nephroblastoma were treated at the National Oncology Center. All patients had previously undergone nephrectomy, and adjuvant WAI was indicated because of intraoperative tumor spillage. Radiotherapy planning was performed using CT simulation with 5-mm slice thickness. The clinical target volume included the entire abdominal cavity, extending from the diaphragm to the pubic symphysis, bounded laterally by the abdominal walls and posteriorly by the anterior vertebral surface. A uniform 0.5-cm margin was added to generate the planning target volume. The contralateral healthy kidney was contoured as the primary organ at risk. Treatment was delivered under intravenous propofol sedation with patients positioned supine and arms immobilized above the head. According to the SIOP 2015 UMBRELLA protocol, radiotherapy consisted of 8 fractions of 1.8 Gy, totaling 14.4 Gy.

Results. All patients completed treatment without interruption. No acute or late radiation-related toxicity or treatment complications were observed during therapy or follow-up.

Conclusion. Our initial institutional experience indicates that Whole Abdomen Irradiation can be safely and effectively administered in pediatric nephroblastoma patients when delivered according to established international protocols and modern radiotherapy standards.

Role of magnetic resonance imaging and nuclear medicine in the differential diagnosis of muscle and fat tissue malignant tumors

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Toshkent davlat tibbiyot universiteti

Purpose of research Improving the diagnosis of muscle and fat tissue malignant tumors using improved methods for analyzing and interpreting MRI images and also SPECT

Methods. This study analyzed 120 patients with histologically confirmed diagnoses treated at the Medical Radiology Center, Tashkent, Uzbekistan (September–November 2024). The diagnosis and assessment of muscle and fat tissue malignant tumors involved utilizing magnetic resonance imaging (MRI) with contrast enhancement and SPECT nuclear medicine. The examinations were conducted using a 1.5 Tesla magnetic field strength scanner and included standard sequences such as T1-weighted imaging (T1), T2-weighted imaging (T2), T2-fluid-attenuated inversion recovery (FLAIR), diffusion-weighted imaging (DWI), and T1-weighted imaging with post-contrast administration (T1-post contrast).

Results. The research involved MRI data analysis from a cohort of 120 patients diagnosed with brain tumors. Within this group, 31 patients were identified as having malignant tumor types (glioma or metastasis), while 29 patients presented with benign tumors (meningioma). The patients' ages ranged from 3 to 70 years, with a mean age of 44 ± 2.14 years. Among the 60 patients, 21 were male and 39 were female. Gliomas were diagnosed in 26 patients, with an average age of 35 ± 2.8 years. Among these patients, 11 were male and 15 were female. MRI data from 29 patients who underwent surgical treatment for brain meningiomas were analyzed. Among these patients, 10 were male and 16 were female, out of a total of 26 patients. The age of the patients varied from 18 to 70 years, with an average age of 53 ± 2.3 years.

Conclusion. Indeed, the study results underscore the importance of using magnetic resonance imaging (MRI) in differentiating benign and malignant brain tumors. MRI, as a modern and powerful diagnostic method, plays a key role in oncology by providing specialists with detailed information about the structural characteristics of tumors.

Эффективность адъювантного применения темозоломида в сочетании с лучевой терапией у пациентов с глиобластомой головного мозга

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Актуальность. Глиобластома является наиболее агрессивной формой злокачественных опухолей центральной нервной системы, характеризующейся крайне неблагоприятным прогнозом. Повышение эффективности комбинированного адъювантного лечения остаётся одной из приоритетных задач современной нейроонкологии.

Цель. Оценить влияние применения темозоломида в составе адъювантной терапии на показатели общей выживаемости у пациентов с глиобластомой.

Материалы и методы. Проведено ретроспективное наблюдение за 27 пациентами с морфологически подтверждённой глиобластомой, проходившими лечение в Ташкентском областном филиале РСНПМЦОиР. Всем больным после удаления опухоли проводилась дистанционная лучевая терапия (разовая очаговая доза - 2 Гр, суммарная - 60 Гр, 5 раз в неделю). Темозоломид применялся в двух режимах: ежедневно во время облучения (по 75 мг/м²) и после завершения ЛТ - по стандартной схеме (200 мг/м² в течение 5 дней каждого 28-дневного цикла, всего 6 курсов). Анализ выживаемости проводился по методу Каплана–Мейера.

Результаты. Однолетняя выживаемость в группе, получавшей темозоломид, составила 65%, в то время как в группе без химиотерапии - 37% (p=0,003). Двухлетняя выживаемость составила 30,5% против 16,4% соответственно (p=0,008). Медиана общей выживаемости у пациентов, получавших комбинированную терапию, достигала 15,6 месяцев, тогда как в группе только лучевой терапии - 10 месяцев. У пациентов возрастной категории <60 лет однолетняя выживаемость достигала 66% при применении темозоломида, против 40% в контрольной группе (p=0,012), а двухлетняя - 26% против 16% (p=0,028). Уровень различий между группами был статистически значимым, что подтверждает эффективность темозоломида как компонента адъювантной схемы.

Выводы. Адъювантное применение темозоломида в сочетании с лучевой терапией у пациентов с глиобластомой достоверно повышает показатели общей выживаемости. Этот подход заслуживает широкого внедрения в региональную клиническую практику нейроонкологии.

ДРУГИЕ И МЕЖДИСЦИПЛИНАРНЫЕ ТЕЗИСЫ

RIOvaRIATM TVFda endoxirurgik operatsiyalar

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Natijalar: Torakoskopik tekshiruvlar davomida 2 nafar bemorda o‘pka saratoni verifikatsiya qilindi (bir holatda o‘smadan, ikkinchi holatda esa o‘pka ildizi limfa tugunidan), 1 nafar bemorda kam uchraydigan patologiya — o‘pka gemangiomasi aniqlandi. Barcha laparoskopik adneksektomiyalar asoratsiz bajarildi, konversiya holatlari kuzatilmadi. Laparoskopik bachadon ekstirpatsiyasi odatiy usulga aylandi, operatsiyaning o‘rtacha davomiyligi 100–120 daqiqa bo‘ldi. Diagnostik laparoskopiya bajarilgan 12 bemordan:4 nafarida tuxumdon kistasi, 3 nafarida qorin bo‘shlig‘i sil kasalligi, oshqozon saratonining tashxisi qiyin bo‘lgan 2 holatda o‘smadan vizual nazorat ostida trepanobiopsiya bajarildi, 3 holatda qorin parda karsinomatozi aniqlanib, gipertermik intraperitoneal kimyoterapiya o‘tkazish uchun drenaj qilindi.3 nafar bemorga urologik operatsiyalar bajarildi: 1 holatda siydik qopigining malignizaciyalashgan divertikulini olib tashlash va ureterotsistoanastomoz shakllantirish, 2 holatda nefrektomiya bajarildi. 5 nafar bemorda turli variantdagi kolostomalar shakllantirildi.

Xulosa: O‘tkazilgan tahlil endoxirurgik usulning muhim afzalliklarini ko‘rsatdi: operatsion shikastlanish va qon yo‘qotishning kamayishi, bemorlarning erta faollashuvi va tezroq tiklanishi, shuningdek, shifoxonada yotish muddatining qisqarishi hamda hayot sifatining yaxshilanishi.

Side effects of immunotherapy in oncological patients

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National Center of Oncology, Baku, Azerbaijan Over the past decade, immunotherapy has been successfully used in the treatment of many types of cancer. Immune checkpoint inhibitors (ICIs) targeting programmed cell death protein-1 (PD-1) or its ligand (PD-L1) are among the most effective immunotherapeutic agents and represent a major focus of modern oncological research. Activation of the immune system, while providing therapeutic benefits, may also lead to the development of immune-related adverse events.

Aim: To investigate the adverse effects occurring during immunotherapy in oncological patients, as well as their clinical significance and management principles.

Methods: Clinical outcomes of 30 patients who received immunotherapy at the First Chemotherapy Department of the National Oncology Center in 2025 were analyzed. Immunotherapy included pembrolizumab (200 mg every 3 weeks) or nivolumab (240 mg every 2 weeks). Among the patients, 18 were diagnosed with non-small cell lung cancer, 8 with melanoma, and 4 with renal cell carcinoma (RCC). During the observation period, hypertension was observed in three patients and arrhythmia in one patient. These patients received chemotherapy in combination with immunotherapy. Hypertension was recorded starting from the first cycle of treatment. In two patients with pre-existing rheumatoid arthritis, a sudden increase in blood pressure was observed immediately after drug infusion. In one patient, hoarseness developed after the second cycle of immunotherapy.

Conclusion: Despite its therapeutic effectiveness, the use of immunotherapeutic agents may lead to various toxic effects. The most common adverse events include dermatological (pruritus, rash), gastrointestinal (colitis, diarrhea), endocrine (hypothyroidism, hypophysitis), pulmonary (pneumonitis), and hepatic disorders (1). ICIs (CTLA-4, PD-1, PD-L1) may affect

different organs and systems, leading to manifestations such as diarrhea, myasthenia, colitis, hypophysitis, pruritus, and polyarthritis. Achieving optimal clinical outcomes requires not only antitumor efficacy but also careful monitoring and timely management of immune-related toxicities.

Long-Term Treatment Outcomes of Nephroblastoma in Azerbaijan

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Background: Nephroblastoma is one of the most chemosensitive malignant solid tumors in childhood. Disease stage and histological risk stratification remain the most important prognostic factors. The use of standardized international treatment protocols has significantly improved survival outcomes.

Objective: To evaluate long-term treatment outcomes and survival of children with nephroblastoma treated according to SIOP-based protocols in Azerbaijan.

Materials and Methods: A retrospective cohort study was conducted, including 59 children with nephroblastoma treated between 2013 and 2021 at the Pediatric Oncology Clinic The cohort consisted of 33 boys and 26 girls aged from 6 months to 15 years (mean age 3 years 5 months). Treatment was performed according to the SIOP WT-2001 and SIOP 2018 protocols. All patients received preoperative chemotherapy for 4–6 weeks followed by nephrectomy or partial nephrectomy. Postoperative chemotherapy was administered according to histological risk groups. Overall survival (OS) and event-free survival (EFS) were analyzed..

Results: Stage I disease was observed in 4 patients (6.8%), stage II in 22 (37.3%), stage III in 19 (32.2%), and stage IV in 14 patients (23.7%). Histological risk stratification revealed low risk in 4 patients (6.8%), standard risk in 34 (57.6%), and high risk in 21 patients (35.6%). No severe chemotherapy-related toxicity (WHO grade III–IV) or major surgical complications were recorded. The cumulative 5-year OS and EFS rates were 87%±5% and 84%±5%, respectively. Overall survival was higher in patients with right-sided tumors compared to those with left-sided tumors.

Conclusion: SIOP WT-2001 and SIOP Umbrella 2016 protocols provide effective and safe treatment for pediatric nephroblastoma, achieving favorable long-term survival even in cohorts with a predominance of advanced-stage and high-risk disease.

The impact of venous port systems on quality of life in oncological patients

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Objective: Long-term intravenous therapy is essential in cancer treatment. Repeated peripheral venous access may cause pain, phlebitis, extravasation, and psychological stress, negatively affecting patients’ quality of life. Totally implantable venous port systems provide reliable long- term vascular access. This study evaluates the impact of venous port systems on quality of life in oncological patients.

Materials and Methods: A prospective clinical assessment was conducted in oncology patients receiving systemic chemotherapy. Patients were divided into two groups: those with totally implantable venous port systems and those receiving treatment via repeated peripheral venous cannulation. Quality of life was evaluated using clinical observation and standardized patient- reported measures focusing on pain intensity, treatment-related discomfort, anxiety,

and functional activity. Complication rates, including infection, thrombosis, and catheter dysfunction, were analyzed.

Results: Patients with venous port systems reported significantly lower procedural pain and reduced treatment-related anxiety compared to those with peripheral access. The frequency of repeated venipuncture decreased, improving treatment adherence and overall comfort. Functional activity and social participation were better maintained in the port group. Complications were infrequent and mainly limited to minor infections or catheter-related thrombosis, which were manageable with appropriate medical care.

Conclusion: Totally implantable venous port systems significantly improve quality of life in oncological patients requiring long-term intravenous therapy. They reduce procedural discomfort, psychological stress, and vascular complications associated with repeated peripheral access. Proper patient selection, aseptic technique, and regular monitoring are essential to minimize complications and optimize clinical outcomes.

Selective intra-arterial chemotherapy for eyeball preservation in patients with retinoblastoma

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Objective: Retinoblastoma is the most common primary intraocular malignancy in children. This study evaluates the efficacy and safety of selective intra-arterial chemotherapy (IAC) for preserving survival, the globe, and visual function in retinoblastoma.

Materials and Methods: A clinical evaluation was performed in pediatric patients with intraocular retinoblastoma. Under general anesthesia, a microcatheter was introduced through the femoral artery into the ophthalmic artery. Five of 17 children (29.4%) were female. Twenty-two eyes of 17 children (8 bilateral, 9 unilateral) were treated with IAC. The median age at diagnosis was 15 months. Sixteen treated eyes were classified by the ICRB system: Group A (n=1), Group B (n=3), Group D (n=10), Group E (n=2). Median follow-up was 46.5 months (IQR 30, range 13–137), and median age at IAC initiation was 27.5 months (IQR 10.25, range 10–117). All children initially treated with primary IVC received a median of four cycles (IQR 3.25, range 2–12) of carboplatin, etoposide, and vincristine (CEV). Successful ophthalmic artery catheterisation was achieved in 33/36 (91.6%) procedures. Procedures were abandoned due to failed catheterisation in 1/36 (3%) and internal carotid artery vasospasm in 2/36 (5.5%). Three unsuccessful catheterisations occurred in the most recent three patients. Chemotherapy consisted of fixed-dose melphalan and topotecan (5 mg and 1 mg, respectively, in 36/36, 100%). Median infusions per eye were two (IQR 2, range 1–5). No significant intra-procedural complications occurred. Tumor regression was assessed by fundoscopy, ultrasound, and imaging.

Results: IAC achieved significant tumor regression in most cases, especially in advanced unilateral disease. Globe salvage was high, systemic toxicity minimal, and severe systemic adverse events rare.

Conclusion: IAC is an effective and relatively safe treatment for retinoblastoma, particularly in advanced intraocular stages, improving globe salvage with minimal systemic toxicity. Multidisciplinary collaboration remains essential.

Young age childhood cancer incidence in Kyrgyzstan

Makimbetov E

in children in the world. Cancers found in young children often have clinical and biological properties that differ from those of the same histological type of cancer found in older children. The purpose of the study. To study the aspects of descriptive epidemiology of malignant tumors in young children in the Kyrgyz Republic.

Material and methods. Over 15 years (2008-2022), according to the population registry, 517 cases of cancer were registered in children in the younger age group (0-4 years). Age-standardized rates were calculated using the world standard population, depending on gender, age, ethnic group and region. Results and discussion. By gender, there were 311 boys (60.1%) and 206 girls (39.9%). Leukemia was in the first place in the structure of cancer in young children - 172 cases or 33%. Kidney tumors (nephroblastoma) were in second place with a frequency of 15% or 77 cases. The third one had eye tumors (retinoblastoma) with a frequency of 11% or 59 cases. The average annual incidence of boys in the urban population was registered at 85.7, and in rural areas - 54.8 per 1 million (p = 0.023). The incidence among indigenous ethnic groups (Kyrgyzs and Uzbeks) was recorded at 58.5 and 76.7, respectively. There was a statistically significant increase in the incidence of cancer in children of the Russian ethnic group (121.7) compared with other nationalities. Relatively high levels of morbidity were registered in Bishkek, Jalal-Abad and Issyk-Kul regions.

Conclusion. In the younger age group, the incidence of cancer is higher than in middle and older childhood. It is necessary to further study the features of the spread of tumors in children using large groups and analytical methods.

Pediatric Medulloblastoma in Azerbaijan: Outcomes of Risk-Adapted Multimodal Therapy

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Background. Medulloblastoma is the most common malignant brain tumor in children and remains a major cause of cancer-related morbidity and mortality. Treatment outcomes depend on appropriate risk stratification and the use of standardized multimodal therapy. Data from national oncology centers remain limited in many regions.

Methods. A retrospective analysis was conducted of pediatric patients with medulloblastoma treated at the Pediatric Clinic of the National Center of Oncology of the Republic of Azerbaijan between 2013 and 2025. This study represents the first consolidated institutional experience in pediatric medulloblastoma management at our center. All patients were treated according to international HIT protocols (2008–2022), including maximal safe surgical resection, craniospinal irradiation, and adjuvant chemotherapy in accordance with risk group stratification. Risk group distribution, and survival outcomes were analyzed. Event-free survival (EFS) and overall survival (OS) were evaluated.

Results. Seventy children with medulloblastoma were included, comprising 47 boys and 23 girls. Fifty patients were classified as standard-risk, while 20 belonged to the high-risk group. All patients received radiotherapy as part of protocol-based treatment. The overall event-free survival was 64.4%, and the overall survival rate was 68.4%. Risk-adapted analysis demonstrated superior outcomes in the standard-risk group, with an EFS of 71.2% and OS of

85.9%, compared to the high-risk group, where EFS was 48.7% and OS was 54.2%.

Conclusion. This first consolidated institutional experience from Azerbaijan demonstrates that implementation of standardized international treatment protocols results in favorable survival outcomes in children with medulloblastoma, particularly in standard-risk patients. Persistently inferior outcomes in high-risk disease highlight the need for continued refinement of therapeutic strategies and strengthened regional collaboration in pediatric neuro-oncology.

Clinical and demographic characteristics and FIGO stage distribution patterns of childhood cervical cancer patients

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Materials and methods. A retrospective analysis was conducted on 116 cervical cancer patients treated at the National Oncology Center between 2017 and 2020. Clinical variables (age, histological type, treatment modality) and demographic data (residence area) were collected, and staging was performed based on the FIGO 2018 classification system. Statistical analyses were carried out using IBM SPSS Statistics version 26.0, with a significance level of $p<0.05$.

Results. The mean age of patients was 52.3 ± 10.7 years. With increasing age, the proportion of patients diagnosed at advanced stages also increased. Among urban residents, early-stage disease (I–II) accounted for 62.5% of cases, whereas in rural regions, advanced stages (III–IV) predominated at 55.9%. Squamous cell carcinoma (SCC) was mostly detected in advanced stages, while adenocarcinoma (AC) was relatively more common in early stages. Surgical treatment predominated in early stages (66.7%), whereas combined chemoradiotherapy and tri-modal approaches were more frequent in advanced stages.

Conclusion. A statistically significant relationship was observed between the FIGO stage of cervical cancer and clinical–demographic parameters. Age and place of residence significantly influenced stage distribution. Early detection was more frequent among urban residents, while advanced stages were more prevalent among rural and elderly populations. These findings highlight the need to expand screening programs in regional areas and to implement individualized treatment strategies tailored to histological and demographic profiles.

Clinical Features and Long-Term Outcomes of Desmoid Tumors in Children: Analysis of Recurrence and Treatment Results

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Purpose. To evaluate clinical characteristics, treatment modalities, and long-term outcomes of desmoid tumors in children, with particular emphasis on recurrence risk and factors influencing local control.

Materials and Methods. A retrospective cohort study included 37 children (≤18 years) with histologically confirmed desmoid tumors treated at RSSPMCOR and its branches between 2017 and 2022. The median age at diagnosis was 11.0 years (range 1.2–17.0). Boys predominated (59.5%), girls accounted for 40.5%. Median duration of symptoms before referral was 7

months (1–36 months). Extra-abdominal localization was observed in the majority of cases, predominantly affecting the extremities (64.9%). Median tumor size was 9.5 cm (range 2–20 cm). Morphologically, tumors corresponded to classical desmoid-type fibromatosis with low mitotic activity and infiltrative growth. Primary surgical treatment included simple local excision in 18 patients (48.6%), wide excision (R0/R1) in 16 patients (43.2%), and amputation in 3 cases (8.1%). Statistical analysis included descriptive statistics and recurrence frequency comparison.

Results. Local recurrence developed in 19 of 37 patients (51.4%). Recurrence rate was significantly associated with the extent of surgical intervention: 77.8% (14/18) after simple local excision, 31.3% (5/16) after wide excision, and 0% after amputation. Median follow-up duration was 46 months (12–96 months). At last follow-up, 27 patients (73.0%) were alive without evidence of disease, 7 (18.9%) were alive with disease, 2 (5.4%) were lost to follow-up, and 1 patient (2.7%) died due to disease-related complications. No distant metastases were observed.

Conclusion. Desmoid tumors in children demonstrate a high rate of local recurrence, particularly after limited surgical excision. Adequate surgical margins significantly reduce recurrence risk and improve long-term local control. Individualized, multidisciplinary management remains essential to balance oncologic radicality with preservation of function and quality of life.

Retinoblastomada erta diagnostika va zamonaviy davolash strategiyalari

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Maqsad. Retinoblastoma bolalarda uchraydigan ko‘zning xavfli o‘smalaridan biri bo‘lib, kasallikni erta bosqichda aniqlash davolash samaradorligini sezilarli darajada oshiradi. Tadqiqotning maqsadi retinoblastomaning erta diagnostika imkoniyatlari hamda zamonaviy davolash strategiyalarining samaradorligini tahlil qilishdan iborat.

Materiallar va usullar. Tadqiqot davomida 2015–2025 yillarda chop etilgan ilmiy maqolalar, klinik kuzatuvlar va retrospektiv tadqiqotlar tahlil qilindi. Diagnostik metodlar sifatida oftalmoskopiya, ultratovush tekshiruvi, kompyuter tomografiya, magnit-rezonans tomografiya va genetika testlari o‘rganildi. Shuningdek, o‘smalarning lokalizatsiyasi, hajmi, ko‘z ichidagi tarqalishi va metastaz holatlari baholandi. Davolash strategiyalarida kimyoterapiya, lazer koagulyatsiyasi, krioterapiya, radioterapiya va kombinatsiyalangan kompleks davolash usullari ko‘rib chiqildi. Tahlilning asosiy mezonlari – ko‘rish funksiyasini saqlab qolish, o‘smaning regressiyasi va kasallikning takrorlanmasligi.

Natijalar. Tadqiqot natijalari shuni ko‘rsatdiki, retinoblastomani aniqlashda eng muhim klinik belgilar – leukokoriya va g‘ilaylikdir. Ultrasonografiya va MRT o‘smalarning hajmi va lokalizatsiyasini aniq ko‘rsatib beradi, bu esa davolash strategiyasini optimallashtirishga yordam beradi. Kompleks davolash, xususan sistemik kimyoterapiya bilan birgalikda lazer koagulyatsiyasi va krioterapiya qo‘llanishi ko‘zni saqlash imkoniyatini sezilarli darajada oshiradi. Retinoblastoma bo‘lgan bemorlarning 75–85%ida ko‘rish funksiyasi saqlanib qolingan, davolash samaradorligi yuqori bo‘lgan va takrorlanish darajasi minimal bo‘lgan.

Xulosa. Retinoblastomani erta bosqichda aniqlash bemor hayotini saqlab qolish va ko‘rish funksiyasini asrashda muhim ahamiyatga ega. Zamonaviy diagnostika usullari va kompleks davolash strategiyalaridan foydalanish kasallik prognozini sezilarli darajada yaxshilaydi.

Implementation of a Structured Early Cardio-Oncology Monitoring Algorithm for Children Receiving Anthracycline Therapy: Initial Clinical Experience

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Background: Anthracycline-based chemotherapy in children carries a risk of early and late cardiotoxicity. Subclinical injuries often go undetected when left ventricular ejection fraction (LVEF) remains within normal ranges. Current cardio-oncology guidelines—including position statements from the European Society of Cardiology (ESC) and specialized Eurasian societies— stress the need for standardized cardiovascular monitoring in pediatric patients using cardiac biomarkers and echocardiography.

Purpose: To develop and implement a structured cardio-oncology monitoring algorithm for children undergoing anthracycline-based chemotherapy and to report clinical experience from a tertiary pediatric oncology center.

Methods: A prospective inpatient monitoring program was launched at the Scientific and Practical Medical Center for Pediatric Oncology, Hematology, and Immunology. The algorithm involves baseline cardiovascular assessment (clinical exam, ECG, echocardiography/LVEF, troponin, ST2, and NT-proBNP) followed by stepwise biomarker monitoring at predefined cumulative anthracycline doses. Repeat echocardiographic evaluations were performed throughout treatment, aligned with ESC guidelines adapted for pediatric use. Cases showing biomarker elevation despite preserved LVEF were reviewed by multidisciplinary teams of pediatric oncologists and cardiologists affiliated with international and Eurasian cardio-oncology networks.

Results: During the phase, a subset of patients exhibited increases in cardiac biomarkers despite maintaining preserved LVEF. These findings prompted intensified surveillance and multidisciplinary discussions regarding oncologic strategy and cardioprotective management. While no clinically manifest cardiac dysfunction occurred during short-term follow-up, long-term outcomes are being evaluated to determine the prognostic significance of biomarker shifts in children.

Conclusions: Implementing a structured cardio-oncology monitoring algorithm in pediatric practice is feasible and organizationally sustainable. Serial assessment of cardiac biomarkers combined with echocardiography identifies subclinical myocardial stress at a preclinical stage, providing a framework for timely multidisciplinary intervention. Further prospective studies in larger cohorts are necessary to confirm the impact of this strategy on long-term outcomes and to harmonize monitoring protocols across European and Eurasian societies.

The role of immune system factors and angiogenesis in the tumor microenvironment in disseminated ovarian cancer: pathogenetic significance and prognostic markers

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Ovarian cancer remains one of the most challenging problems in modern oncogynecology. Despite advances in cytoreductive surgery and platinum-based chemotherapy, the five-year survival rate for patients with stage III–IV disease does not exceed 30–40%. Poor prognosis is largely associated not only with late diagnosis but also with aggressive metastatic behavior and the development of peritoneal carcinomatosis. Increasing evidence suggests that tumor progression is strongly influenced by the tumor microenvironment (TME), which includes immune cells, angiogenic factors, and hypoxia-related mediators.

Aim: To investigate the role of immune cells ($CD4^+$, $CD8^+$, $CD68^+$), angiogenesis-related factors (VEGF, CD31, HIF-1α), and immunosuppressive molecules (PD-L1, CTLA-4) in shaping the tumor microenvironment and to determine their prognostic significance in disseminated epithelial ovarian cancer.

Materials and Methods: The study included 135 patients with stage III–IV epithelial ovarian cancer (mean age 52.3 ± 4.8 years) treated between 2020 and 2025. Immunohistochemical analysis was performed to assess marker expression. Microvessel density (MVD) was evaluated using CD31 staining. Associations between biomarker expression and clinical outcomes were statistically analyzed.

Results: $CD8^+$ T lymphocyte infiltration was significantly reduced in tumors with high HIF-1α expression ($p < 0.01$). Although $CD4^+$ T cells were evenly distributed, their functional activity decreased in cases with elevated PD-L1 expression. Increased infiltration of $CD68^+$ macrophages, particularly the M2 phenotype, was associated with metastasis and carcinomatosis. VEGF and CD31 expression correlated directly with high microvessel density (MVD > 40 per field of view). HIF-1α was detected in 72% of cases and was linked to reduced cytotoxic immune response.

Conclusion: The tumor microenvironment plays a pivotal role in disease progression. Low $CD8^+$ infiltration combined with high VEGF, HIF-1α, and PD-L1 expression represents an unfavorable prognostic profile. These biomarkers may serve as a basis for risk stratification and personalized combined immuno- and anti-angiogenic therapy.

Onkoloji hastalarında septik şok eşlik eden şiddetli pnömonide HAT protokolü ile tedavinin optimizasyonu

Vazirova Z.Sh, Azizova N.T, İbrahimova A.M, Mirzayeva S.E, Mahmudova S.R

Amaç: Septik şok ile komplike şiddetli pnömonisi bulunan onkoloji hastalarında hidrokortizon, askorbik asit ve tiamin kombinasyonundan oluşan HAT protokolünün tedavi sürecine etkisini ve klinik sonuçların optimizasyonunu değerlendirmektir.

Metotlar: Ağustos 2024-Şubat 2025 tarihleri arasında Milli Onkoloji Merkezi Yoğun Bakım Ünitesinde izlenen septik şoklu şiddetli pnömonili 12 hastanın 8'ine HAT protokolü uygulanmışdır. Klinik izlem; akciğer grafisi, akciğer ultrasonografisi, C-reaktif protein (CRP), prokalsitonin ve günlük SOFA (Sequential Organ Failure Assessment) skoru ile yapılmıştır. Pnömoni şiddeti PSI (Pneumonia Severity Index) ve IDSA/ATS kriterlerine göre değerlendirilmiştir. HAT protokolü kapsamında hidrokortizon 200 mg yükleme ve 7 gün idame, C vitamini 1000 mg ve tiamin 500 mg olmak üzere 4 gün uygulanmıştır.

Bulgular: HAT protokolü uygulanan hastaların %75'inde hastane kaynaklı, %25'inde aspirasyon pnömonisi saptanmıştır. Tüm hastalar PSI sınıf IV olarak değerlendirilmiş ve başlangıç SOFA skoru ≥9 bulunmuştur. Tedavinin 3-4. günlerinde CRP ve prokalsitonin düzeylerinde belirgin düşüş, radyolojik bulgularda iyileşme ve SOFA skorunda ≤5'e gerileme gözlenmiştir. Vazopresör ihtiyacının suresi HAT protokolü uygulanmayan hastalara kıyasla daha kısa bulunmuştur.

Özet: Septik şok eşlik eden şiddetli pnömonili onkoloji hastalarında HAT protokolü, inflamatuvar yanıtın azalması, organ disfonksiyonunun gerilemesi ve vazopressör ihtiyacının kısalması ile ilişkili bulunmuştur. Bu hasta grubunda protokolün etkinliğini doğrulamak için daha geniş, kontrollü çalışmalara ihtiyaç vardır.

Antibacterial therapy in febrile neutropenia: practical aspects and challenges

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Background. Primary central nervous system lymphoma (PCNSL) is an aggressive extranodal non-Hodgkin lymphoma with a high risk of relapse despite initial complete remission. Relapsed PCNSL is associated with poor prognosis, cumulative neurotoxicity, and limited therapeutic options, requiring an individualized treatment approach.

Objective. To evaluate the clinical characteristics of relapsed PCNSL and analyze treatment strategies, including systemic therapy, radiotherapy, and palliative management, in real-world clinical practice.

Materials and Methods. A retrospective analysis included 9 patients with PCNSL treated at the National Centre of Oncology between 2020 and 2024. Disease relapse was documented in 4 patients (44.4%). Time to relapse, neurological presentation, neuroimaging findings, therapeutic strategies, and short-term clinical outcomes were assessed.

Results. The median time to relapse was 13 months (range 6–24 months). All relapses were intracranial and manifested by progression of focal neurological deficits and/or cognitive impairment. Treatment strategies varied according to performance status and relapse pattern. Re-treatment with methotrexate-based regimens was performed in 2 patients (50.0%). One patient (25.0%) received focal radiotherapy due to localized relapse and limited eligibility for intensive systemic therapy. In one patient (25.0%), predominantly palliative management, including corticosteroids and supportive care, was initiated because of severe comorbidities and poor functional status. Partial response or disease stabilization was achieved in 2 patients (50.0%). Major factors limiting aggressive therapy included neurotoxicity, infectious complications, and deterioration of functional status.

Conclusion. Relapsed PCNSL remains a therapeutically challenging condition with unfavorable outcomes. Management should be individualized based on relapse localization, prior treatment exposure, and patient performance status. Radiotherapy may represent an effective option in selected cases with localized relapse, while timely integration of palliative strategies is essential in patients with impaired functional reserve.

Relapses of primary central nervous system lymphoma: clinical characteristics and treatment strategies

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Background. Primary central nervous system lymphoma (PCNSL) is characterized by an aggressive clinical course and a high risk of relapse even after achieving complete remission. Relapsed PCNSL is associated with an unfavorable prognosis and limited therapeutic options, individualized treatment approach that may include systemic therapy, radiotherapy, and palliative care.

Objective. To evaluate the clinical characteristics of relapsed PCNSL and to analyze treatment strategies, including the role of radiotherapy and palliative approaches.

Materials and Methods. A retrospective analysis was conducted including 9 patients with primary CNS lymphoma treated at a specialized Oncohematology Department in National

Centre of Oncology between 2020 and 2024. Disease relapse was documented in 4 patients (44.4%). Time to relapse, clinical presentation, neuroimaging findings, selected treatment strategies, and immediate clinical outcomes were assessed.

Results. The median time to relapse was 13 months (range: 6–24 months). In all cases, relapse was intracranial and was associated with progression of focal neurological symptoms and/or cognitive impairment. Treatment strategies for relapse included re-treatment with methotrexate-based regimens in 2 patients (50.0%). One patient (25.0%) received focal radiotherapy due to localized relapse and limited feasibility of systemic therapy. In one patient (25.0%), predominantly palliative and symptomatic management, including corticosteroids and supportive care, was applied because of significant comorbidities and poor functional status. Partial response or disease stabilization was achieved in 2 patients (50.0%). The main factors limiting active treatment were neurotoxicity, infectious complications, and deterioration of functional status.

Conclusions. Relapses of primary CNS lymphoma are associated with poor clinical outcomes and require a strictly individualized therapeutic approach. Radiotherapy may represent an effective option for selected patients with localized relapse when intensive systemic therapy is not feasible. Palliative strategies play an important role in patients with significant comorbidities and impaired functional status. Comprehensive clinical assessment is essential for optimizing treatment decisions in relapsed PCNSL.

Клинико-топографическая характеристика жалоб пациентов со злокачественными глиальными опухолями головного мозга после хирургического лечения

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Цель. Изучить структуру и топографическую зависимость клинических жалоб у пациентов со злокачественными глиальными опухолями головного мозга на этапе поступления для проведения лучевой терапии после хирургического вмешательства.

Материалы и методы. Проведен ретроспективный анализ 174 пациентов, получавших лечение в Республиканском специализированном научно-практическом медицинском центре онкологии и радиологии. Оценивались жалобы при поступлении на этап адъювантной лучевой терапии в зависимости от анатомической локализации опухоли. Статистическая обработка данных выполнена с применением критерия хи-квадрат и расчетом коэффициента Крамера.

Результаты. В структуре клинических проявлений доминировали общемозговые симптомы: головная боль (159 случаев), общая слабость (130), головокружение (82), судорожный синдром (82) и тошнота (66). Наибольшая концентрация симптомов отмечена при локализации опухоли в лобной доле, где зарегистрированы 39,6 процента случаев головной боли, 41,5 процента общей слабости, 46,3 процента головокружения и 43,9 процента судорог. Данная закономерность отражает роль лобных структур в регуляции высших корковых функций и их чувствительность к внутричерепной гипертензии. При височной локализации достоверно чаще наблюдались судорожные приступы и нарушения памяти, что связано с вовлечением медиальных височных отделов и лимбической системы. Теменная доля ассоциировалась с нарушением чувствительности и слабостью конечностей, а опухоли мозжечка - с расстройствами координации и равновесия. Выявлена статистически значимая зависимость характера

жалоб от анатомической локализации опухоли (p = 0,0017) при средней силе ассоциации (коэффициент Крамера = 0,392).

Выводы. Клиническая симптоматика злокачественных глиальных опухолей демонстрирует четкую анатомо-функциональную обусловленность. Понимание клинико-топографических закономерностей имеет принципиальное значение для оптимизации планирования лучевой терапии, прогнозирования неврологического дефицита и персонализации лечебной стратегии.

Структура и клинические особенности острой и поздней лучевой токсичности у пациентов со злокачественными глиальными опухолями головного мозга

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Цель. Проанализировать частоту, структуру и клиническое течение острой и поздней лучевой токсичности у пациентов со злокачественными глиальными опухолями головного мозга при проведении лучевой терапии.

Материалы и методы. В исследование включены 174 пациента со злокачественными глиальными опухолями головного мозга, проходившие лечение в Республиканском специализированном научно-практическом медицинском центре онкологии и радиологии. Проведен ретроспективный анализ частоты развития лучевых реакций, их клинических проявлений и применяемых лечебно-профилактических мероприятий.

Результаты. Наиболее частым осложнением явился отек ткани головного мозга с клиническими проявлениями в виде тошноты, рвоты и головной боли, зарегистрированный у 145 пациентов (83,33 процента). Коррекция состояния осуществлялась назначением кортикостероидных гормонов, диуретиков, противорвотных средств и постепенным наращиванием дозы облучения. Кожные реакции по типу сухого эпителиита отмечены у 139 пациентов (79,89 процента) и купировались местной противовоспалительной терапией. Нейропатии, включая судорожный синдром, выявлены у 75 пациентов (43,10 процента); применялась профилактика и метаболическая нейропротективная терапия. Полифагия, ассоциированная с гормональной терапией, наблюдалась у 27 пациентов (15,52 процента) и корректировалась снижением дозы кортикостероидов. Миелодепрессия диагностирована у 5 пациентов (2,87 процента), преимущественно легкой степени; тяжелые формы требовали применения колониестимулирующих факторов, препаратов железа, фолиевой кислоты и гемотрансфузии. Инфекционные осложнения не зарегистрированы.

Выводы. Лучевая терапия при злокачественных глиальных опухолях сопровождается преимущественно обратимыми реакциями, наиболее часто связанными с отеком головного мозга и кожными изменениями. Своевременная профилактика и комплексная медикаментозная коррекция позволяют минимизировать выраженность токсичности и обеспечить непрерывность лечения без значимых перерывов.

Роль экспрессии PD-L1 в формировании чувствительности к иммунохимиотерапии при диффузной В-крупноклеточной лимфоме

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Цель исследования: Оценить роль экспрессии PD-L1 в формировании чувствительности к иммунохимиотерапии у больных диффузной В-крупноклеточной лимфомой (ДВККЛ) и определить её значение как предиктивного маркера эффективности анти-PD-L1 терапии.

Материалы и методы: В исследование включено 35 пациентов с впервые диагностированной ДВККЛ в возрасте 18–75 лет. Диагноз подтверждён морфологическим и иммуногистохимическим исследованием биопсийного материала. Всем больным проводилась иммунохимиотерапия первой линии по схеме R-CHOP (6–8 курсов каждые 21 день). Экспрессия PD-L1 определялась методом иммуногистохимии с количественной оценкой уровня экспрессии в опухолевых клетках. Пациенты с высокой экспрессией PD-L1 и недостаточным ответом на стандартную терапию (n=12) в рамках исследования дополнительно получали анти-PD-L1 терапию препаратом Атезолизумаб. Оценка эффективности проводилась по критериям объективного ответа, безрецидивной выживаемости (БРВ) и общей выживаемости.

Результаты: Высокая экспрессия PD-L1 выявлена у 16 (45,7%) пациентов. В группе анти-PD-L1 терапии частота объективного ответа составила 66,7% (8/12), при этом полная ремиссия достигнута у 41,7% (5/12) больных. В группе пациентов с высокой экспрессией PD- L1, получавших только стандартную терапию, полная ремиссия отмечена в 25% случаев. Двухлетняя БРВ составила 58% в группе иммунотерапии против 40% в группе сравнения. Лечение характеризовалось удовлетворительной переносимостью.

Заключение: Экспрессия PD-L1 может рассматриваться как предиктивный маркер эффективности анти-PD-L1 терапии при ДВККЛ. Включение ингибиторов PD-L1 в лечебную тактику у пациентов с гиперэкспрессией маркера и недостаточным ответом на стандартную иммунохимиотерапию способствует повышению частоты ремиссий и улучшению показателей безрецидивной выживаемости.

