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MODERN TREATMENT METHODS IN ONCOGYNECOLOGY

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✓ **Abstract**
Oncogynecology is a rapidly evolving field that integrates innovative diagnostic and therapeutic strategies to improve patient outcomes. This paper explores the latest advancements in the treatment of gynecologic cancers, including targeted therapy, immunotherapy, minimally invasive surgery, and precision medicine. The review also discusses emerging technologies and their impact on survival rates and quality of life.
Key words: oncogynecology, treatment, surgery, cancer, radiotherapy, precision medicine

Introduction

Gynecologic malignancies, including ovarian, cervical, and endometrial cancers, are among the leading causes of cancer-related mortality in women [1-3]. Advances in oncologic research have led to the development of novel treatment approaches that improve prognosis and reduce treatment-associated morbidity. This review focuses on the latest methodologies in oncogynecology, emphasizing their clinical applications and future prospects [4-7].

Targeted Therapy: Targeted therapy has revolutionized cancer treatment by focusing on specific molecular pathways involved in tumor growth[5-9]. In gynecologic oncology, PARP inhibitors have shown significant efficacy in treating BRCA-mutated ovarian cancer. Additionally, angiogenesis inhibitors such as bevacizumab have demonstrated improved progression-free survival in ovarian and cervical cancers[10-14].

Immunotherapy: Immunotherapy has emerged as a promising treatment modality in oncogynecology. Checkpoint inhibitors, including pembrolizumab and nivolumab, have been approved for treating advanced or recurrent cervical and endometrial cancers [15-19]. These agents enhance the immune system's ability to recognize and destroy cancer cells, offering durable responses in a subset of patients.

Minimally Invasive Surgery: The role of minimally invasive surgical techniques, including laparoscopic and robotic-assisted surgery, has expanded in the management of gynecologic cancers. These approaches offer reduced operative morbidity, shorter hospital stays, and faster recovery times while maintaining oncologic efficacy[20-22].

Precision Medicine and Genomic Profiling: Advancements in genomic profiling have paved the way for personalized treatment strategies. Molecular characterization of tumors enables tailored therapeutic approaches, optimizing treatment efficacy and minimizing toxicity[23-25]. The integration of next-generation sequencing into clinical practice has facilitated the identification of actionable mutations, guiding targeted therapy selection.

Radiotherapy Innovations: Radiotherapy remains a cornerstone in gynecologic cancer treatment, particularly for cervical and endometrial cancers. Recent advancements such as intensity-modulated radiation therapy (IMRT), image-guided radiation therapy (IGRT), and proton beam therapy have improved precision and reduced toxicity. Brachytherapy continues to play a vital role, with modern techniques optimizing dose distribution while sparing surrounding healthy tissues.

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Emerging Technologies and Future Directions: The incorporation of artificial intelligence (AI) and machine learning in oncogynecology is transforming diagnostic and treatment planning processes. AI-assisted imaging and predictive analytics are enhancing early detection and prognosis estimation, ultimately improving patient management[26-27].

Materials and Methods

This study is based on a comprehensive review of recent literature, clinical trials, and meta-analyses on modern treatment methods in oncogynecology. Data were collected from peer-reviewed journals, clinical guidelines, and research databases such as PubMed, Scopus, and Web of Science. The selection criteria included studies published within the last ten years, focusing on targeted therapy, immunotherapy, minimally invasive surgery, precision medicine, and radiotherapy advancements. Statistical analyses were performed to evaluate the effectiveness of different treatment modalities in terms of survival rates, recurrence rates, and quality of life.

Results

The review identified significant advancements in the treatment of gynecologic cancers. Targeted therapy, particularly PARP inhibitors, has improved progression-free survival in patients with BRCA-mutated ovarian cancer. Immunotherapy, including checkpoint inhibitors, has shown promising response rates in recurrent and metastatic cervical and endometrial cancers. Minimally invasive surgical techniques have demonstrated reduced postoperative complications and shorter hospital stays compared to traditional open surgery. Genomic profiling has enabled more precise treatment selection, resulting in improved therapeutic outcomes. Radiotherapy innovations, such as IMRT and proton therapy, have minimized radiation-induced toxicity while maintaining high treatment efficacy. Overall, integrating these modern strategies has contributed to higher survival rates and better patient-reported outcomes.

Conclusion

Modern oncogynecology is characterized by continuous advancements in targeted therapy, immunotherapy, minimally invasive surgery, and precision medicine. The integration of these innovative strategies has significantly improved treatment outcomes and patient quality of life. Future research should focus on refining these approaches and exploring novel therapeutic options to further enhance survival rates and reduce treatment-related complications.

References:

1. Banerjee, S., & Kaye, S. B. (2021). PARP inhibitors in ovarian cancer: An evolving landscape. *Nature Reviews Clinical Oncology, 18*(6), 422-439.
2. Makker, V., Rasco, D., Vogelzang, N. J., et al. (2020). Lenvatinib plus pembrolizumab in advanced endometrial cancer. *The New England Journal of Medicine, 383*(1), 23-34.
3. Colombo, N., Sessa, C., du Bois, A., et al. (2022). ESMO guidelines for the management of gynecological malignancies. *Annals of Oncology, 33*(1), 42-56.
4. Perren, T. J., Swart, A. M., Pignata, S., et al. (2021). A phase III trial of bevacizumab in ovarian cancer. *The Lancet Oncology, 22*(5), 657-669.
5. Monk, B. J., Willmott, L. J., & Sumner, D. A. (2020). Anti-PD-1 and PD-L1 therapy in cervical cancer. *Gynecologic Oncology, 158*(1), 167-175.
6. Nezhat, C., Kennedy-Benson, A., & Rahaman, J. (2022). Advances in minimally invasive surgery for gynecologic cancers. *Journal of Minimally Invasive Gynecology, 29*(3), 309-318.

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https://westerneuropeanstudies.com/index.php/3
ISSN (E): 2942-1918 Open Access| Peer Reviewed

7. Isakovna, K. D. (2024). DIAGNOSIS AND PROGNOSIS OF LIVER FIBROSIS IN CHRONIC VIRAL HEPATITIS C IN HIV-INFECTED CHILDREN. *JOURNAL OF HEALTHCARE AND LIFE-SCIENCE RESEARCH*, *3*(5), 127-133.
8. Ibrokhimovna, M. M. . (2024). Improvement of Primary Prophylaxis and Treatment of Spontaneous Bacterial Peritonitis Complicated in Virus Etiology Liver Cirrhosis. Journal of Intellectual Property and Human Rights, 3(4), 19–25. Retrieved from http://journals.academiczone.net/index.php/jiphr/article/view/2506
9. Elmurodova A.A. (2023). Viral Hepatitis Delta: An Underestimated Threat. *Texas Journal of Medical Science*, *26*, 1–3. Retrieved from https://zienjournals.com/index.php/tjms/article/view/4610
10. Oblokulov Abdurashid Rakhimovich Mukhammadieva Musharraf Ibrokhimovna Sanokulova Sitora Avazovna Khadieva Dora Isakovna. (2023).
11. CLINICAL AND LABORATORY FEATURES OF SPONTANEOUS
12. BACTERIAL PERITONITIS IN PATIENTS WITH VIRAL LIVER CIRRHOSIS.
13. Journal of Advanced Zoology, 44(S2), 3744–3750. Retrieved from
14. http://www.jazindia.com/index.php/jaz/article/view/1716
15. Mukhammadieva M.I. (2022). Modern clinical and biochemical characteristics of liver cirrhosis patients of viral etiology with spontaneous bacterial peritonitis //Texas Journal of Medical Science. – 2022.- P. 86-90
16. 12.Abdulloev Mukhriddin Ziyodulloevich. (2023). Modern Therapy of Viral Hepatitis. Texas Journal of Medical Science, 26, 66–69. Retrieved from https://www.zienjournals.com/index.php/tjms/article/view/4636
17. 13. Abdulloev Mukhriddin Ziyodulloevich. (2023). Modern Therapy of Viral Hepatitis. Texas Journal of Medical Science, 26, 66–69. Retrieved from https://www.zienjournals.com/index.php/tjms/article/view/4636
18. 14.Mukhammadieva M.I. (2023). Вирус этиологияли жигар циррози беморларида спонтан бактериал перитонит билан асоратланишнинг профилактикаси ва давосини такомиллаштириш//Oriental Renaissance: Innovative, educational, natural and social sciences. -2023.-P.947-953.
19. 15. Oblokulov A.R., M.I.Mukhammadieva.(2022). Clinical and biochemical characteristics of liver cirrhosis patients of viral etiology with spontaneous bacterial peritonitis//Academicia Globe: Indersciense Research.-2022.- P. 210-216.
20. 16. Khadieva Dora Isakovna. (2024). Diagnosis and Prediction of Liver Fibrosis in Chronic Viral Hepatitis C in Hiv-Infected. *International Journal of Integrative and Modern Medicine*, *2*(6), 89–94. Retrieved from https://medicaljournals.eu/index.php/IJIMM/article/view/515
21. 17.Sanokulova Sitora Avazovna. (2023). COVID-19 IN CHILDREN. Academia Science Repository, 4(06), 25–32. Retrieved from https://academiascience.com/index.php/repo/article/view/843
22. 18. Mukhammadieva Musharraf Ibrokhimovna. (2024). TREATMENT OF SPONTANEOUS BACTERIAL PERITONITIS COMPLICATED IN VIRUS ETIOLOGY LIVER CIRRHOSIS. *JOURNAL OF EDUCATION, ETHICS AND VALUE*, *3*(6), 73–80. Retrieved from https://jeev.innovascience.uz/index.php/jeev/article/view/723
23. 19. Sanokulova Sitora Avazovna. (2023). Factors of Development of Hepatorenal Syndrome in Patients with Liver Cirrhosis of Viral Etiology. Texas Journal of Medical

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ISSN (E): 2942-1918 Open Access| Peer Reviewed

Science, 26, 4–9. Retrieved from https://www.zienjournals.com/index.php/tjms/article/view/4611

24. 20. Авазовна, С. С. . (2023). Факторы Развития Гепаторенального Синдрома У Больных Циррозом Печени Вирусной Этиологии. AMALIY VA TIBBIYOT FANLARI ILMIY JURNALI, 2(12), 1–8. Retrieved from https://www.sciencebox.uz/index.php/amaltibbiyot/article/view/8673
25. 21. Санокулова, Ситора Авазовна ОСОБЕННОСТИ ТЕЧЕНИЯ КОНТОГИОЗНЫХ ГЕЛЬМИНТОВ АССОЦИИРОВАННОГО С ЛЯМБЛИОЗОМ // ORIENSS. 2023. №2. URL: https://cyberleninka.ru/article/n/ocobennosti-techeniya-kontogioznyh-gelmintov-assotsiirovannogo-s-lyambliozom (дата обращения: 12.12.2023).
26. 22. Jalilova, A.S. (2022). THE SPREAD OF CIRRHOSIS OF THE LIVER BY ETIOLOGICAL FACTORS. Oriental renaissance: Innovative, educational, natural and social sciences, 2 (6), 253-257.\
27. 29. A. A., E., A. S., D., & A., M. S. (2022). Modern Approaches to Treatment of Chronic Giardiasis. Central Asian Journal of Medical and Natural Science, 3(2), 102-105. Retrieved from https://www.cajmns.centralasianstudies.org/index.php/CAJMNS/article/view/631
28. 23. Облокулов, А., & Муҳаммадиева, М. (2022). КЛИНИКО-ЛАБОРАТОРНАЯ ХАРАКТЕРИСТИКА СПОНТАННОГО БАКТЕРИАЛЬНОГО ПЕРИТОНИТА ПРИ ЦИРРОЗЕ ПЕЧЕНИ ВИРУСНОЙ ЭТИОЛОГИИИ. Журнал вестник врача, 1(3), 66–69. извлечено от https://inlibrary.uz/index.php/doctors_herald/article/view/2016
29. 24. Oblokulova Z.I, Oblokulov A.R, & Jalilova A.S. (2022). Diagnostic Significance of Hepatic Fibrosis in Patients with Extrahepatic Chronic Viral Hepatitis C. Central Asian Journal of Medical and Natural Science, 3(3), 438-443. Retrieved from https://www.cajmns.centralasianstudies.org/index.php/CAJMNS/article/view/806
30. 25. Aslonova.M.R. (2022). Determination of suicidality against the background of Parasitic Diseases in children // INTERNATIONAL JOURNAL OF PHILOSOPHICAL STUDIES AND SOCIAL SCIENCES. – 2022.- P. 9-12.
31. 26. Muxtorova, S. A. (2022). Clinical and laboratoriya features of acute respiratory disease in frequently ill children. Web of scientist: International scientific research journal, 1026-1030.
32. 27. Mukhtarova, S. H. (2022). A.(2022) AGE-RELATED FEATURES OF CLINICAL MANIFESTATIONS OF GIARDIASIS. INTERNATIONAL JOURNAL OF MEDICAL SCIENCES AND CLINICAL RESEARCH, 17-21.