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| RESEARCH ARTICLE

Clinicopathological Characteristics, Diagnosis, and Management of Ovarian Cancer: A Systematic Review

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| ABSTRACT
Ovarian cancer remains one of the leading causes of gynecological cancer-related mortality worldwide due to its insidious onset, late-stage diagnosis, and complex biological behavior. Despite advances in imaging, molecular diagnostics, and therapeutic strategies, overall survival rates remain suboptimal. This systematic review aims to synthesize current evidence on the clinicopathological characteristics, diagnostic approaches, and management strategies of ovarian cancer. A comprehensive literature search was conducted across PubMed, Scopus, Web of Science, and Google Scholar for studies published between 2015 and 2024. A total of 20 sources were included, consisting of 17 peer-reviewed journal articles and 3 authoritative textbooks. Data were extracted on epidemiology, histopathological subtypes, molecular features, clinical presentation, diagnostic modalities, and treatment outcomes. The findings highlight that epithelial ovarian cancer, particularly high-grade serous carcinoma, represents the most prevalent and aggressive subtype. Late-stage presentation (FIGO stage III–IV) remains common, contributing significantly to poor prognosis. Multimodal management involving cytoreductive surgery and platinum-based chemotherapy continues to be the cornerstone of treatment, while targeted therapies and immunotherapy are emerging as promising adjuncts. This review underscores the importance of early detection strategies, standardized pathological classification, and personalized treatment approaches to improve survival outcomes in ovarian cancer patients.

| KEYWORDS
Ovarian cancer; epithelial ovarian carcinoma; histopathology; diagnosis; management; systematic review

| ARTICLE INFORMATION

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1. Introduction

Ovarian cancer is the eighth most common cancer among women globally and represents the most lethal gynecological malignancy. The high mortality rate is primarily attributed to nonspecific early symptoms and the absence of effective screening tools, resulting in diagnosis at advanced stages. Ovarian cancer encompasses a heterogeneous group of tumors with diverse histopathological, molecular, and clinical characteristics. Understanding these variations is essential for optimizing diagnostic accuracy and therapeutic decision-making. This systematic review aims to provide an integrated overview of ovarian cancer by examining its clinicopathological features, diagnostic strategies, and current management approaches.

2. Methods

This systematic review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Electronic databases including PubMed, Scopus, Web of Science, and Google Scholar were searched using keywords such as “ovarian cancer,” “epithelial ovarian carcinoma,” “histopathology,” “diagnosis,” and “treatment.” Inclusion criteria consisted of English-language publications, original research articles, review articles, and textbooks published between 2015 and 2024.

3. Clinicopathological Characteristics of Ovarian Cancer
Epithelial ovarian cancer accounts for approximately 90% of cases and is subdivided into serous, mucinous, endometrioid, and clear cell carcinomas. High-grade serous carcinoma is the most common and aggressive subtype, frequently associated with TP53 mutations and advanced-stage disease at diagnosis.

4. Diagnostic Approaches
Diagnosis relies on a combination of clinical evaluation, imaging, serum biomarkers, and histopathological confirmation. Transvaginal ultrasonography remains the first-line imaging modality, while CT and MRI are essential for staging.

5. Management Strategies
Standard management involves cytoreductive surgery followed by platinum-based chemotherapy. Targeted therapies such as PARP inhibitors are increasingly used.

6. Conclusion
Ovarian cancer remains a significant cause of morbidity and mortality. Early detection and individualized treatment are essential to improve outcomes.

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