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Preoperative Assessment and Risk Stratification in Ovarian Cancer

Nathan Tobias*

Department of Obstetrics and Gynecology, Chung Shan Medical University Hospital, Taichung 40201, Taiwan

INTRODUCTION

Preoperative assessment and risk stratification in ovarian cancer are crucial steps in optimizing treatment outcomes and enhancing patient prognosis. Ovarian cancer, known for its subtle onset and complex pathology, often presents at advanced stages, making early detection and appropriate management key factors in improving survival rates. The preoperative phase, encompassing detailed evaluations and strategic planning, plays a pivotal role in determining the best course of action for each patient. A multidisciplinary approach, combining clinical assessment, imaging, laboratory tests and genetic profiling, is essential in accurately identifying the risks and tailoring treatment strategies [1].

The first step in preoperative assessment involves a thorough clinical history and physical examination. A complete patient history helps identify potential risk factors, including family history, prior gynecologic conditions and genetic predispositions, such as mutations in the BRCA1 or BRCA2 genes, which increase the likelihood of ovarian cancer. Symptoms like bloating, pelvic pain and changes in urinary habits, though nonspecific, are important clues and must be carefully evaluated. The physical exam focuses on palpating the abdomen and pelvis for signs of mass formation, ascites, or other abnormalities that may indicate the presence of malignancy [2]. Imaging plays a critical role in the preoperative evaluation of ovarian cancer. Ultrasound, particularly transabdominal and transvaginal ultrasound, is often the first-line imaging modality, offering valuable information on the size, location and characteristics of ovarian masses. CT and MRI scans are commonly employed to assess the extent of the disease, including the involvement of adjacent organs, lymph nodes and distant metastases. These imaging techniques also help in evaluating ascites, peritoneal metastasis and the presence of secondary tumors, which are crucial for staging and risk stratification.

DESCRIPTION

Laboratory tests, including serum markers such as CA-125, play a significant role in the preoperative assessment. CA-125 is a glycoprotein that is often elevated in ovarian cancer and can provide valuable information regarding the disease's progression and response to therapy. However, it is not specific to ovarian cancer and can be elevated in benign conditions such as endometriosis or pelvic inflammatory disease. Therefore, CA-125 levels must be interpreted in the context of the clinical presentation and imaging findings. Additional markers, such as HE4, can be used in conjunction with CA-125 to improve diagnostic accuracy [1].

Risk stratification involves categorizing patients based on the likelihood of having a malignant tumor and determining their prognosis. Factors considered in risk stratification include the patient's age, symptoms, tumor characteristics and the findings from imaging and laboratory tests. The degree of tumor spread, histologic subtype and presence of certain molecular markers also contribute significantly to this process. The risk of metastasis and the potential for recurrence after treatment are vital considerations when determining the appropriate surgical approach and the need for adjuvant therapies, such as chemotherapy or targeted therapy. Genetic profiling has emerged as an essential component in the preoperative evaluation of ovarian cancer, particularly for patients with a strong family history of cancer or those who meet the criteria for hereditary cancer syndromes. Testing for BRCA1, BRCA2 and other genetic mutations can guide decisions about surgery, chemotherapy regimens and the potential use of PARP inhibitors as part of targeted therapy. These genetic insights also have implications for familial counseling and surveillance strategies for relatives who may be at increased risk [2].

The final step in preoperative assessment is to create a personalized treatment plan that aligns with the patient's

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Corresponding author: Nathan Tobias, Department of Obstetrics and Gynecology, Chung Shan Medical University Hospital, Taichung 40201, Taiwan; E-mail: jmli@mail.cmu.edu.tw

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individual risk profile. Multidisciplinary teams, including oncologists, surgeons, radiologists and genetic counselors, work collaboratively to discuss the patient's condition and formulate the most appropriate surgical approach. This may involve staging laparoscopy, debulking surgery, or more extensive procedures, depending on the extent of the disease. Additionally, adjuvant therapies, including chemotherapy, targeted therapy and immunotherapy, may be recommended based on the patient's risk profile and tumor characteristics. Preoperative assessment and risk stratification in ovarian cancer are fundamental in providing optimal care. A comprehensive approach, combining clinical evaluation, imaging, laboratory tests, genetic profiling and multidisciplinary input, ensures that the most appropriate treatment plan is developed for each patient. This thorough evaluation not only helps in diagnosing and staging the disease accurately but also improves the chances of successful outcomes by tailoring interventions to the individual's unique circumstances [2].

CONCLUSION

Preoperative assessment and risk stratification play a crucial role in the management of ovarian cancer. Early identification of patient-specific risk factors, such as age, comorbidities and tumor characteristics, can guide treatment decisions, optimize surgical outcomes and help in determining the need for additional therapies. A thorough evaluation using clinical, radiological and laboratory markers ensures a personalized approach to each patient, improving prognostic accuracy and facilitating a more effective care plan. By integrating these assessments, healthcare providers can reduce the likelihood of complications, enhance survival rates and ultimately improve the quality of life for patients with ovarian cancer.

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