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Perspective

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Integrated Therapeutic Strategies in the Management of Advanced Ovarian Cancer: A Multidisciplinary Case Report

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Description

Ovarian cancer is a complex malignancy often diagnosed at advanced stages, posing significant challenges in terms of treatment planning and prognosis. This case report presents a comprehensive approach to the management of advanced ovarian cancer, emphasizing the importance of collaboration among specialists in gynecologic oncology, medical oncology, surgery, and radiology. A 34-yearold male with no known medical history presented to our hospital with complaints of persistent headache and fever for the past three weeks. The patient had no history of tuberculosis exposure or prior infection. On clinical examination, he exhibited signs of meningeal irritation, including neck stiffness.

A 52-year-old female presented with abdominal distension, pelvic pain, and increasing fatigue. Imaging studies, including transvaginal ultrasound and Computed Tomography (CT) scans, revealed a large pelvic mass with ascites and omental caking. CA-125 levels were markedly elevated, raising suspicion for advanced ovarian cancer. The patient's medical history was unremarkable for genetic predispositions or prior malignancies.

The diagnostic workup included a thorough physical examination, imaging studies, and tumor marker assessments. A CT-guided biopsy of the pelvic mass confirmed the diagnosis of high-grade serous ovarian carcinoma. Additionally, a staging laparoscopy was performed to assess the extent of disease and obtain peritoneal fluid for cytology.

Given the advanced stage of the disease and the need for a comprehensive treatment plan, a multidisciplinary team was assembled. The team included gynecologic oncologists, medical oncologists, surgical specialists, and radiologists, ensuring a holistic approach to patient care.

The patient initiated neoadjuvant chemotherapy to reduce the tumor burden and improve the feasibility of subsequent surgical interventions. A combination regimen comprising paclitaxel and carboplatin was administered every three weeks for a total of three cycles. During this period, the patient's symptoms improved, and CA-125 levels showed a significant decline.

Following neoadjuvant chemotherapy, the patient underwent interval debulking surgery to achieve maximal cytoreduction. The surgical team performed a total abdominal hysterectomy, bilateral salpingo-oophorectomy, omentectomy, and resection of visible peritoneal implants. Intraoperatively, there was evidence of extensive peritoneal carcinomatosis, requiring meticulous surgical techniques.

The excised specimens underwent thorough histopathological examination to assess the extent of residual disease and identify any specific molecular characteristics that could inform targeted therapies. The pathology report confirmed a high-grade serous ovarian carcinoma with optimal cytoreduction achieved.

Following surgery, the patient resumed adjuvant chemotherapy to address any residual microscopic disease. The chemotherapy regimen was tailored based on the histopathological findings and included additional agents targeting specific molecular pathways implicated in ovarian cancer progression.

The multidisciplinary team, including medical oncologists and pathologists, reviewed the results of molecular profiling. The presence of specific genetic mutations, such as BRCA1/2, guided the decision to incorporate targeted therapies, including poly (ADP-ribose) polymerase (PARP) inhibitors, into the treatment plan.

Based on the postoperative assessment, the patient received localized radiation therapy to address residual disease in specific areas, further optimizing the chances of disease control. The integrated treatment approach resulted in a favorable response, with a significant reduction in CA-125 levels and no evidence of disease recurrence on imaging studies. The patient reported improved quality of life, and follow-up assessments indicated sustained remission.

Discussion

The presented case exemplifies the complexity of managing advanced ovarian cancer and the necessity of a multidisciplinary approach. Neoadjuvant chemotherapy followed by interval debulking surgery, combined with targeted therapies guided by molecular profiling, represents a contemporary strategy to optimize outcomes in such cases.

The collaboration among gynecologic oncologists, medical oncologists, surgical specialists, and radiologists ensured a comprehensive evaluation of the patient's condition and the design of a personalized treatment plan. Molecular profiling played a crucial role in identifying specific genetic alterations that informed the choice of targeted therapies, reflecting the evolving landscape of precision medicine in oncology.

The decision to pursue neoadjuvant chemotherapy was based on the extent of disease and the need for cyto-reduction before surgery. This approach is particularly relevant in cases of advanced ovarian cancer where upfront surgery might be associated with higher morbidity.

Conclusion

The successful management of advanced ovarian cancer relies on a multidisciplinary and integrated approach. This case report highlights the significance of collaboration among gynecologic oncologists,



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and implementing a personalized treatment plan. Neoadjuvant chemotherapy, interval debulking surgery, targeted therapies, and molecular profiling collectively contribute to optimizing outcomes in

medical oncologists, surgical specialists, and radiologists in designing patients with advanced ovarian cancer. The case underscores the evolving landscape of precision medicine and the importance of individualized, patient-centric care in the field of gynecologic oncology.