

Surgical Strategies in Ovarian Cancer: Navigating Complexity

Marlo C. Ransi*

Obstetrics and Gynaecology Unit, San Salvatore Hospital, 67100 L'Aquila, Italy

Introduction

Ovarian cancer represents a significant challenge in women's health, characterized by its insidious onset, aggressive nature, and propensity for late-stage diagnosis. Despite advances in screening, diagnosis, and treatment, ovarian cancer remains the leading cause of gynecologic cancer-related mortality worldwide. Surgical intervention plays a central role in the management of ovarian cancer, encompassing a spectrum of procedures aimed at diagnosis, staging, and cytoreduction. In this article, we delve into the intricate relationship between ovarian cancer and surgery, exploring the principles of surgical management, the role of debulking surgery in advanced disease, and emerging trends in minimally invasive and fertility-sparing approaches.

Ovarian cancer encompasses a heterogeneous group of malignancies arising from the epithelial cells, germ cells, or stromal cells of the ovary, each with distinct histological subtypes, clinical behaviors, and therapeutic implications. Epithelial ovarian cancer accounts for the majority of cases and is further classified into serous, endometrioid, clear cell, and mucinous subtypes, each with unique molecular characteristics and prognostic implications. Germ cell tumors and sex cord-stromal tumors represent less common ovarian malignancies, typically affecting younger women and exhibiting diverse clinical presentations [1].

Description

The cornerstone of ovarian cancer management is surgical intervention, which serves dual roles in diagnosis and treatment. The primary objectives of ovarian cancer surgery are to establish a histopathological diagnosis, determine the extent of disease spread, and achieve maximal cytoreduction to remove visible tumor deposits. Surgical staging, comprising comprehensive pelvic and para-aortic lymphadenectomy, omentectomy, peritoneal biopsies, and intraoperative tumor sampling, is essential for accurately assessing the extent of disease spread and informing subsequent treatment decisions. In early-stage ovarian cancer, defined as disease confined to the ovaries or pelvis, surgical management typically involves unilateral or bilateral salpingo-oophorectomy, with or without hysterectomy and lymphadenectomy, depending on the histological subtype and risk factors. Fertility-sparing surgery may be considered in select cases of early-stage, low-grade tumors in young women desiring future childbearing, preserving the unaffected ovary and uterus while ensuring adequate oncological outcomes [2]. Ovarian cancer surgery may be supplemented with adjuvant chemotherapy, particularly in high-risk cases with adverse prognostic features such as advanced stage, high-grade histology, or positive cytology. In advanced-stage ovarian cancer, characterized by extra-ovarian metastases or extensive intraperitoneal spread, aggressive cytoreductive surgery is central to the management approach. Cytoreduction, also known as debulking surgery, aims to remove all visible

tumor deposits and achieve optimal residual disease burden, as measured by the size of residual nodules or the completeness of cytoreduction score. Extensive surgical procedures may be required, including total abdominal hysterectomy, bilateral salpingo-oophorectomy, omentectomy, pelvic and para-aortic lymphadenectomy, diaphragmatic peritonectomy, and visceral resections to achieve macroscopic complete resection [3].

The extent of cytoreduction achieved during surgery is a critical determinant of prognosis in advanced ovarian cancer, with higher rates of complete cytoreduction associated with improved progression-free and overall survival. However, achieving optimal cytoreduction is challenging and may be limited by factors such as tumor biology, extent of disease dissemination, anatomical constraints, and surgeon experience. Multidisciplinary collaboration between gynecologic oncologists, surgical teams, medical oncologists, and radiologists is essential for optimizing patient selection, surgical planning, and perioperative care in advanced ovarian cancer. In recent years, there has been growing interest in the role of minimally invasive surgery for ovarian cancer, driven by advancements in laparoscopic and robotic-assisted techniques. MIS offers several potential advantages over traditional open surgery, including reduced blood loss, shorter hospital stays, faster recovery, and improved cosmesis [4]. Moreover, MIS may be associated with comparable oncological outcomes and survival rates to open surgery in select cases of early-stage and low-volume disease. However, the safety and efficacy of MIS in advanced ovarian cancer remains a subject of ongoing debate, with concerns regarding port-site metastases, intraoperative tumor spillage, and incomplete cytoreduction in complex cases.

Fertility-sparing surgery, an emerging trend in ovarian cancer management, aims to preserve reproductive potential in young women diagnosed with early-stage disease [5]. This approach involves unilateral salpingo-oophorectomy or cystectomy, preserving the unaffected ovary and uterus while ensuring adequate oncological clearance. Fertility-sparing surgery may be considered in carefully selected patients with stage I, low-grade tumors, and a strong desire for future childbearing. However, patient selection criteria, oncological safety, and long-term outcomes of fertility-sparing surgery in ovarian cancer require further investigation and validation through prospective studies.

Conclusion

Ovarian cancer surgery remains a cornerstone in the multidisciplinary management of this challenging disease, encompassing a spectrum of procedures aimed at diagnosis, staging, and cytoreduction. From the principles of surgical staging in early-stage disease to the complexities of debulking surgery in advanced-stage disease, surgical intervention plays a pivotal role in optimizing patient outcomes and informing subsequent treatment strategies. Emerging trends in minimally invasive and fertility-sparing approaches offer new opportunities for personalized and patient-centered care in ovarian cancer surgery, underscoring the importance of ongoing research, innovation, and collaboration in improving the quality of care for women affected by this devastating malignancy flaps.

Acknowledgement

None.

Conflict of Interest

None.

*Address for Correspondence: Marlo C. Ransi, Obstetrics and Gynaecology Unit, San Salvatore Hospital, 67100 L'Aquila, Italy; E-mail: dr.rmarloc@ssh.it

Copyright: © 2024 Ransi MC. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Received: 01 March, 2024, Manuscript No. JOS-24-134360; Editor Assigned: 04 March, 2024, PreQC No. P-134360; Reviewed: 15 March, 2024, QC No. Q-134360; Revised: 21 March, 2024, Manuscript No. R-134360; Published: 28 March, 2024, DOI: 10.37421/1584-9341.2024.20.145

References

1. Salas-Benito, Diego, Enric Vercher, Enrique Conde and Javier Glez-Vaz, et al. "Inflammation and immunity in ovarian cancer." *Eur J Cancer Suppl* 15 (2020): 56-66.
2. Barnett, Jason C., Sarah M. Bean, Regina S. Whitaker and Eiji Kondoh, et al. "Ovarian cancer tumor infiltrating T-regulatory (Treg) cells are associated with a metastatic phenotype." *Gynecol Oncol* 116 (2010): 556-562.
3. Clarke, Blaise, Anna V. Tinker, Cheng-Han Lee and Subbaya Subramanian, et al. "Intraepithelial T cells and prognosis in ovarian carcinoma: novel associations with stage, tumor type, and BRCA1 loss." *Mod Pathol* 22 (2009): 393-402.
4. Zou, Ruoyao, Qidi Jiang, Xukai Luo and Mo Chen, et al. "Cytoreductive surgery is feasible in patients with limited regional platinum-resistant recurrent ovarian cancer." *World J Surg Oncol* 21 (2023): 375.
5. Nitecki, Roni, Jose Alejandro Rauh-Hain, Alexander Melamed and Giovanni Scambia, et al. "Laparoscopic Cytoreduction After Neoadjuvant Chemotherapy (LANCE)." *Int J Gynecol Cancer* 30 (2020).

How to cite this article: Ransi, Marlo C. "Surgical Strategies in Ovarian Cancer: Navigating Complexity." *J Surg* 20 (2024): 145.