DOI: https://doi.org/10.47391/JPMA.727

Retrospective study of ovarian malignancy managed in surgical unit at Shaukat Khanum Memorial Cancer Hospital and Research Centre, Lahore

Shalla Imdad Ali[1], Raza Hasnain Sayyed[2], Sana Amir Akbar[3], Muhammad Abubakar[4], Aamir Ali Syed[5]

1,3-5 Shaukat Khanum Memorial Cancer Hospital and Research centre, Lahore, Pakistan;

2 Patel Hospital Karachi, Pakistan.

Correspondence: Shalla Imdad Ali. **Email**: drshallaraza@hotmail.com

Abstract

Objective: To determine the oncological outcome and pattern of ovarian tumour in patients who underwent surgical management.

Methods: The retrospective, descriptive hospital-based study was conducted at Shaukat Khanum Memorial Cancer Hospital, Lahore, Pakistan, and comprised data of all patients who underwent surgical intervention for ovarian cancer between January 2010 and December 2015. Data was retrieved from the hospital database and analysed using SPSS 20.

Results: Of the 236 patients, 203(86%) had undergone open surgery, while 33(14%) had had laparoscopic surgery. Neo-adjuvant chemotherapy was given in 60(25.42%) cases and adjuvant chemotherapy in 102(43.22%). Epithelial ovarian cancer in 201(85.16%) cases was the most common tumour type. Mortality was recorded in 36(15.5%) cases, while 41(19.9%) were lost to follow-up.

Conclusion: Ovarian tumours were found to be difficult to treat and were associated with frequent recurrence.

Key Words: Ovarian malignancy, Surgical management of ovarian cancer, Staging of ovarian cancer.

Introduction

Worldwide, ovarian cancer is the seventh most common cancer in women, and one of the leading causes of death. (1) These are 30% of all cancers of the female genital tract. According to Surveillance, Epidemiology, and End Results (SEER) statistics of the National Cancer Institute, United States, there were about 2,253 estimated new cases of ovarian cancer for 2019, and 5-year survival was around 47.6%. The World Health Organisation (WHO) has classified ovarian neoplasm based on probable ovarian tissue of origin as surface epithelial 65% germ cell 5%, sex cord-stromal 10%, and metastatic 5%. Surface epithelial tumours are further classified by cell type, pattern of growth, amount of fibrous stroma and invasiveness. Epithelial neoplasms are roughly 60% of all ovarian neoplasms and 90% of malignant ovarian tumours (1). They present as clinical challenge in gynaecological oncology, as most of these patients are asymptomatic until they have advance disease, indicated by International Federation of Gynaecology and Obstetrics (FIGO) stage III. (2, 3, 4)

The mainstay of management for advance ovarian malignancy is surgery and platinum-based chemotherapy. The concept of surgical debulking as the mainstay of ovarian cancer therapy was put forward in 1934. (5) Some authors have advocated the idea of removing as much cancer as possible (6). In 1975 inverse correlation of residual disease and survival in ovarian cancer patients was demonstrated, and the concept of optimal cytoreduction was presented (7). Today, surgery is done to provide for staging of ovarian tumours, doing upfront surgery or debulking tumours with advanced disease. Chemotherapy is used in ovarian cancer in neo-adjuvant or adjuvant settings. Although surgery and platinum-based chemotherapy can be curative for most patients in the early stage,

those with advanced disease develop episodes of recurrence with gradually shorter disease-free intervals.

These women require surgery and chemotherapy for optimal treatment. Gynaecological oncologists should be involved when initial treatment is planned to improve the quality of service for patients with advanced ovarian cancer. The goal of debulking surgery in ovarian cancer patients is complete resection leading to no visible macroscopic disease after surgery, which implies the use of ultra-radical surgery (8).

Ovarian carcinoma can be dealt with as upfront surgery or with interval debulking of tumours in patients with advanced disease, after down-staging with chemotherapy. However, ovarian tumours are still considered difficult to treat and are associated with frequent episodes of recurrence which often result in chemo-resistance and, ultimately, bowel obstruction, which is the most frequent cause of death in these patients (9).

The current study was planned to determine the oncological outcome and pattern of ovarian tumour in patients who underwent surgical management at a tertiary care centre.

Materials and Methods

The retrospective, descriptive hospital-based study was conducted at Shaukat Khanum Memorial Cancer Hospital (SKMCH), Lahore, Pakistan, and comprised data of all patients who underwent surgical intervention for ovarian cancer between January 2010 and December 2015. Approval was obtained from the institutional ethics review board. Data included related to patients who presented with ovarian carcinoma at age 18 years or above and who underwent surgical management including upfront surgery, interval-debulking surgery and staging surgery. Data excluded related to patients who had only chemotherapy without surgical intervention and those aged <18 years.

Hospital records of patients included were retrieved from the institutional database and were looked at in terms of demographics, initial clinical presentation, histopathology and multidisciplinary team meeting recommendations, surgical management and oncological outcome. . Clinico-pathological characteristics, stage, oncological outcome, follow-up duration and recurrence were recorded. Data was analysed using SPSS 20.

Results

There were 236 women with a mean age of 44.14±13.57 years. Majority 110(46.6%) had disease stage III. Overall, 203(86%) patients underwent open surgery, while 33(14%) had laparoscopic surgery. Neo-adjuvant chemotherapy was given in 60(25.42%) cases and adjuvant chemotherapy in 102(43.22%). Epithelial ovarian cancer in 201(85.16%) cases was the most common tumour type. Mortality was recorded in 36(15.5%) cases, while 41(19.9%) were lost to follow-up. Disease-free patients under surveillance were 113(47.9%) while those who were alive with disease were 40(16.9%).

Posterior pelvic exenteration was done in 13(5.5%) patients, and recurrence was noted in 78(33.1%) (Table).

Discussion

Surgery is the initial treatment of choice for ovarian cancer. Surgical staging for ovarian cancer can detect microscopic spread outside the ovarian tissue in about 30% of patients with cancer grossly confined to the ovaries. These patients can be given further adjuvant therapies to reduce the risk of recurrence (9). Patients with apparent early-stage ovarian cancer should have a comprehensive staging surgery to help to decide further appropriate treatment. Laparoscopic techniques reduce the morbidity associated with repeat laparotomy for restaging of ovarian cancer (10, 11).

Patients who are not considered for optimal debulking surgery should be

considered for neo-adjuvant chemotherapy followed by interval debulking surgery and adjuvant chemotherapy. In our study, 46% patients had neoadjuvant chemotherapy followed by debulking surgery and adjuvant chemotherapy.

The number of patients with stage I ovarian cancer in the current study group was high as, being a tertiary care centre, the hospital mostly receives patients referred from other hospitals**.** The problem arises as majority of these patients are referred without comprehensive surgical staging with apparent diagnosis of early-stage ovarian cancer. We had the same information missing, like status of the omentum, peritoneal biopsies and retroperitoneal nodes, as reported in literature (12, 13).

The standard care pathway in our hospital for ovarian tumour consists of surgical staging with optimal cytoreduction followed by chemotherapy as per the stage of the tumour. In the current study, 43.22% patients had total abdominal hysterectomy with bilateral salpingo-oophorectomy and infracolic omentectomy, followed by chemotherapy. In 25% of these patients, neo-adjuvant chemotherapy was used, followed by surgery and post-operative chemotherapy. Neo-adjuvant chemotherapy is the best choice of treatment for several types of patients. Delaying surgery also provides more knowledge about the biological behaviour of these tumours, and this can be used to tailor the treatment more effectively. Following three courses of chemotherapy, about half of those undergoing interval debulking surgery can be completely resected (14). Basu et al. reported that only 20.3% patients with advanced disease had optimal debulking. (15) In the current study, 9.3% patients had stage IV disease and they were treated with debulking surgery. Further studies are needed to recognise the patients pre-operatively who would benefit from cytoreductive surgery. Refining the criteria for patient selection for cytoreductive surgery would decrease the frequency of suboptimal debulking surgery and potentially unnecessary postoperative morbidity. There is no screening programme available for the early detection of ovarian tumours. (16, 17)

The current study has its limitations. It had a short duration and was done at a single centre. It also did not assess the type of chemotherapeutic agents used. Future multi-centre prospective studies are recommended to better understand the nature and management of these tumours.

Conclusion

Ovarian tumours were found to be difficult to treat and were associated with frequent recurrence.

Disclaimer: None.

Conflict of Interest: None.

Source of Funding: None.

Reference

1) Puri S, Chadha V, Panteu AK. Epidemiology of ovarian tumors in Northern India – A Tertiary Hospital based study 2018;4:37-41
2) Ryerson AB, Eheman C, Burton J, McCall N, Blackman D, Subramanian S et al. Symptoms, diagnoses and time to key diagnostic procedures among older U.S. women with ovarian cancer. Obstet Gynecol. 2007 May. 109(5):1053-61
3) Goff BA, Mandel LS, Drescher CW, Urban N, Gough S, Schurman KM, et al. Development of an ovarian cancer symptom index: possibilities for earlier detection. Cancer. 2007 Jan 15. 109(2):221-7.
4) Ryerson AB, Eheman C, Burton J, McCall N, Blackman D, Subramanian S, et al. Symptoms, diagnoses, and time to key diagnostic procedures among older U.S. women with ovarian cancer. Obstet Gynecol. 2007. 109(5):1053-61
5) Meigs JV. Tumors of the pelvic organs. New York: Macmillan; 1934

6) Munnell EW. The charging prognosis and treatment in cancer of the ovary. Am J Obstet Gynecol. 1968; 100: 790-5.

7) Griffiths CT. Surgical resection of tumor bulk in the primary treatment of ovarian carcinoma. Nat Cancer Instit Monographs. 1975; 42: 101-5.

8) Chi DS, Eisenhauer EL, Zivanouc O, Sonoda Y, Abu -Rustum N R , Levine D et al. Improved progression-free and overall survival in advanced ovarian cancer as a result of a change in surgical paradigm. Gynecol Oncol. 2009; 114: 26-31.

9) Young RC, Decker DG, Wharton JT, Piver MS, Sindelar WF, Edwards BK, et al. Staging laparotomy in early ovarian cancer. JAMA 1983; 250:3072– 6.

10) Dottino PR, Tobias DH, Beddoe A, Golden AL, Cohen CJ. Laparoscopic lymphadenectomy for gynecologic malignancies. Gynecol Oncol 1999; 73: 383– 8. 18.

11) Pomel C, Provencher D, Dauplat J, Gauthier P, Le-Bouedec G, Drouin P, et al. Laparoscopic staging of early ovarian cancer. Gynecol Oncol 1995; 58:301– 6. 20.

12) Eisenkop SM, Spirtos NM. The clinical significance of occult macroscopically positive retroperitoneal nodes in patients with epithelial ovarian cancer. Gynecol Oncol 2001; 82:143–9.

13) Steinberg JJ, Demopoulos RI, Bigelow B. The evaluation of the omentum in ovarian cancer. Gynecol Oncol 1986; 24: 327–30.

14) Vergote I, Trope CG, Amant F, Kristensen GB,Ehlen T, Johson N, et al. Neoadjuvant chemotherapy or primary surgery in stage IIIC or IV ovarian cancer. *N Engl J Med.* 2010; 363: 943-953.

15) Basu P, De P, Mandal S, Ray K, Bristol J. Study of 'patterns of care' of ovarian cancer patients in a specialized cancer institute of Kolkata, eastern India. Indian J Cancer. 2009; 46: 28-33

16) The FDA recommends against using screening tests for ovarian cancer screening: FDA Safety Communication. U.S. Food & Drug Administration. September 7, 2016

17) Ovarian, Fallopian Tube, and Primary Peritoneal Cancer Screening (PDQ®)–Health Professional Version. National Cancer Institute. February 3, 2017.

Table: Baseline characteristics		
Variables	**Characteristics**	**Total = N (%)**
Age	Mean ± SD	44.14 ± 13.57
Parity	Up to 3 children	148 (62.7%)
	Above 3 children	88 (37.3%)
Initial stage	Stage I	84 (35.6%)
	Stage II	20 (8.5 %)
	Stage III	110 (46.6%)
	Stage IV	22 (9.3%)
Total duration of follow up in months	Mean ± SD	38.61 ± 19.35
Baseline CA125~	Mean ± SD	1593.69 ± 4769.51
Type of surgery ;Open/ laparoscopy	Open	203 (86.0%)
	Laparoscopic surgery	33 (13,98%)
Histopathology types	Epithelial ovarian cancer	201 (85.01%)
	Other types	35 (14.83%)
Neo Adjuvant chemotherapy		60 (25.42%)

Adjuvant chemotherapy		102(43.22%)
Disease status	Disease free	113 (47.88%)
	Alive with disease	40 (16.9%)
	Mortality	36 (15.3%)
	Lost to follow up	47 (19.9%)
Recurrence of disease		78 (33.1 %)
Site of Recurrence	Distant	13 (16.66%)
	Local	22 (28.20%)
	Local + Distant	19 (24.35%)
	Widespread	24 (30.76%)

205 SD: Standard deviation; CA: Cancer antigen