

**Original article:**

## **Retrospective Analysis of Surgical Removal of Ovarian Malignancies**

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### **ABSTRACT**

**Background:** A number of non-neoplastic and neoplastic lesions occur within the ovaries. They can present from the neonatal period to post-menopause. The present study was conducted to evaluate the surgical removal of ovarian malignancies.

**Materials & Methods:** The present study was conducted on 50 cases of ovarian malignancies operated in the last 5 years. Data regarding name, age, size and tumour histology were retrieved. Routine H/E staining was performed.

**Results:** Age group 20-40 years had 22 patients, 40-60 years had 14 patients and >60 years had 4 patients. The difference was significant (P- 0.01). Common ovarian malignancies were serous cystadenofibromas (3), mucinous cystadenomas (6), endometrioid carcinoma (4), granulosa cell tumors (7), hilar tumor (6), mature cystic teratoma (5), struma ovarii (9), metastatic tumor (5), krukentberg tumor (4) and non- Hodgkin tumor (1). The difference was significant (P- 0.01).

**Conclusion:** Ovarian malignancies are common occurring lesions among females. The most common were endometrioid carcinoma, granulosa cell tumors, hilar tumor, mature cystic teratoma, struma ovarii.

**Key words:** Malignancies, Mucinous Cystadenomas, Ovarian.

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### **Introduction**

A number of non-neoplastic and neoplastic lesions occur within the ovaries. They can present from the neonatal period to post-menopause. Most are functional in nature and resolve with minimal treatment. However, ovarian cysts can herald an underlying malignant process. When cysts are large, persistent, or painful, surgery may be required.<sup>1</sup>

Epithelial ovarian cancer EOC is by far the commonest among different malignant ovarian tumors, it is the sixth most frequent cancer in women and the most common cause of death arising from a female pelvic malignancy. More than 50% of epithelial ovarian cancer cases affect patients older than 60 years and 5–10% of the cases are familial. Approximately 75% of women with epithelial ovarian cancer are diagnosed with stage III or stage IV disease. The 5 year survival rates for stage three ranges between 28% and 50%, and for stage four around 13%.<sup>2</sup>

Surgery is the main line of treatment in most of the cases of epithelial ovarian cancer (EOC), with adjuvant chemotherapy recommended for patients with stage I C and up. In locally advanced and metastatic EOC either primary surgery or neo-adjuvant chemotherapy followed by surgery is a reasonable modality.<sup>3</sup>

Taylor<sup>4</sup> in 1929 described Borderline ovarian tumors (BOT) as semi malignant ovarian tumors. This subset of lesions has a good prognosis compared to invasive ovarian cancers. BOT account for approximately 15% of ovarian epithelial neoplasms. Considerable controversy has surrounded the management of these tumors as little is known

about the histological subtypes and outcome, role of fertility sparing surgery and role of postoperative therapy in advanced stage disease. The present study was conducted to evaluate the surgical removal of ovarian malignancies.

**MATERIALS & METHODS**

The present study was conducted on 50 cases of ovarian malignancies operated in the last 5 years in department of general surgery M.G. Hospital, Bhilwara, Rajasthan, India. All were informed regarding the study and written consent was obtained. Ethical clearance was obtained before starting this study.

Data regarding name, age, size and tumour histology were retrieved. Routine H/E staining was performed. Results thus obtained were subjected to statistical analysis using chi- square test. P value less than 0.05 was considered significant.

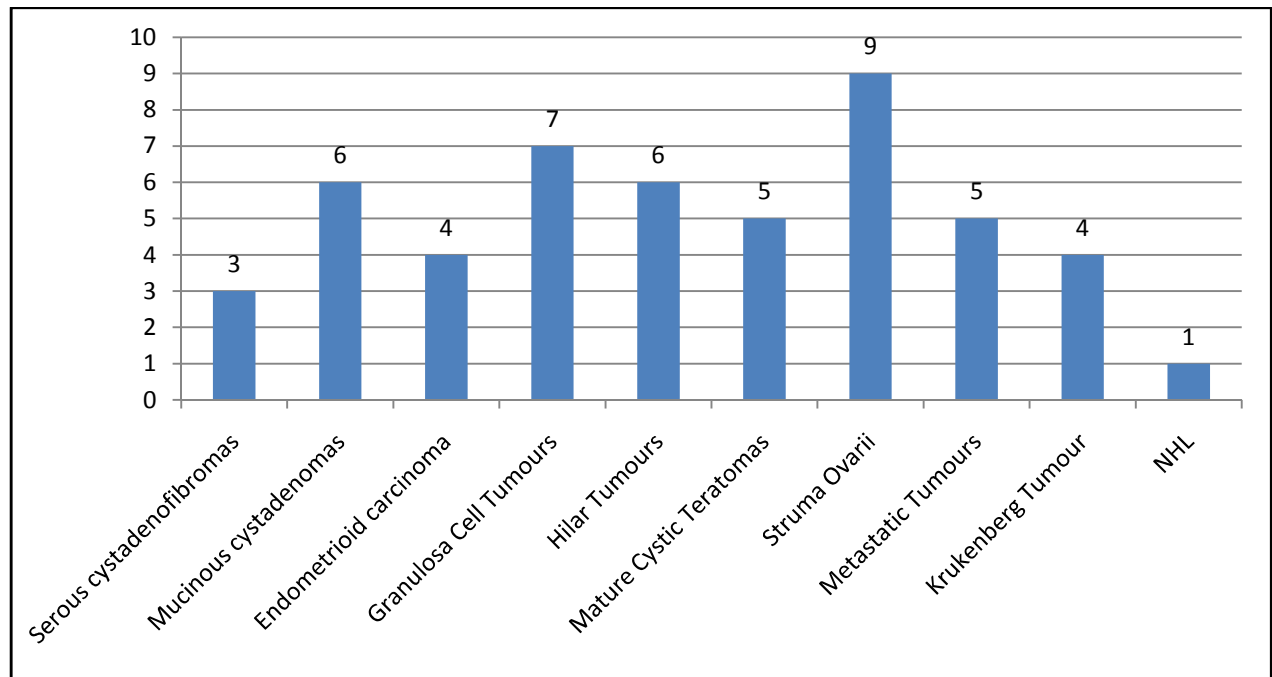
Table I shows that age group 20-40 years had 22 patients, 40-60 years had 14 patients and >60 years had 4 patients. The difference was significant (P- 0.01).

Graph I shows that common ovarian malignancies were serous cystadenofibromas (3), mucinous cystadenomas (6), endometrioid carcinoma (4), granulosa cell tumors (7), hilar tumor (6), mature cystic teratoma (5), struma ovarii (9), metastatic tumor (5), krukenberg tumor (4) and non- Hodgkin tumor (1). The difference was significant (P- 0.01).

**Table I: Age wise distribution**

Age group (years)	Number	P value
20-40	22	0.01
40-60	14	
>60	4	

**Graph I: Type of ovarian malignancies**



## DISCUSSION

Carcinomatous processes of the ovary, both primary and metastatic, frequently are complicated by cystic degeneration. Malignant neoplasms include epithelial ovarian carcinoma (70% of all ovarian malignancies), germ-cell tumours (20%), sex-cord stromal tumours (5%), other rare types and metastases to the ovaries.<sup>5</sup> Subtypes of epithelial tumours include serous, mucinous, endometrioid, clear cell, and Brenner tumours. Germ cell tumours (GCTs) include mature teratoma, dysgerminoma, endodermal sinus tumour (yolk sac tumour), malignant teratoma, embryonal carcinoma, and choriocarcinoma. Sex cord stromal tumours include tumours arising from the sex cords, granulosa cells, Sertoli cells, and the specialised stroma of the genital ridge, theca, and Leydig cells.<sup>6</sup>

In present study, age group 20-40 years had 22 patients, 40-60 years had 14 patients and >60 years had 4 patients. This is in agreement with Zhang et al.<sup>7</sup>

The 5 year survival is only 30–40% and is due to the fact that most ovarian cancers are inoperable when first discovered. There is no reliable mean for early detection except for genetic screening in high risk individuals. The understanding of the molecular pathogenesis of ovarian cancer has been hindered by the lack of sufficient number of specimens at early-stage disease. As a result identifiable precursor lesions that ultimately develop into ovarian cancer are still debatable. The aetiology of ovarian cancers is poorly understood.<sup>8</sup>

We found that common ovarian malignancies were serous cystadenofibromas (3), mucinous cystadenomas (6), endometrioid carcinoma (4), granulosa cell tumors (7), hilar tumor (6), mature cystic teratoma (5), struma ovarii (9), metastatic tumor (5), krukentberg tumor (4) and non- Hodgkin tumor (1). This is similar to Herbst et al.<sup>9</sup>

In a study by Mesogitset al<sup>10</sup>, 498 different non-neoplastic and neoplastic were evaluated. Non-neoplastic cysts were more common (343, 68.87%) than neoplastic tumours (155, 31.12%). The commonest non-neoplastic cyst was luteal cyst followed by follicular cyst. Among the neoplastic tumours 78.70% were benign and 21.29% were malignant. Benign serous cysts were the commonest benign tumour followed by mature cystic teratoma and mucinous cyst. Serous cystadenocarcinoma was the commonest malignant tumour followed closely by endometrioid carcinoma and granulosa cell tumour. Krukentberg tumour, tumour metastatic to ovaries and non-Hodgkins lymphoma was also diagnosed during this period. Malignant germ cell tumours were seen in much younger age group followed by sex cord stromal tumours. Tumours were seen in much older age group.

## CONCLUSION

Ovarian malignancies are common occurring lesions among females. The most common were endometrioid carcinoma, granulosa cell tumors, hilar tumor, mature cystic teratoma, struma ovarii.

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