



## A RETROSPECTIVE STUDY ON OVARIAN CYSTS AND ITS HISTO PATHOLOGICAL CORRELATION

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### ABSTRACT

**Background:** The ovaries are paired gonads in female and are concerned with germ cell maturation, storage and release of ovum. They are also concerned with steroidogenesis. The ovarian cysts may be benign or malignant, most benign cysts occur in reproductive age group while malignant cysts occur after age of 40 years. **Methods:** This retrospective study was conducted in Malla Reddy hospital, Suraram, during a period of 8 months (October 2021-may 2022) on 25 patients with ovarian masses. This study was done to know different clinical presentations, indication for surgery and the histopathological correlation. We have operated most of the cases laparoscopically, while few patients with large masses and unfit for laparoscopy were operated by conventional laparotomy method. **Results:** As we analyzed retrospectively these 25 cases, most of them presented with abdominal pain (32%) and the least with infertility (8%), there were 6 (24%) endometriotic cysts and 4(16%) of corpus luteal cysts, mucinous cystadenomas and hemorrhagic cysts, followed by 3(12%) of serous cystadenomas and teratomas and the least being 1(4%) i.e granulosa cell tumor. **Conclusion:** Simple unilocular functional cysts resolved spontaneously by treatment with oral contraceptives for 3 months, while the large cysts more than 7cms and symptomatic cases required surgery.

**KEYWORDS :** ovarian tumors, functional cysts, endometriotic cyst, serous cystadenoma, mucinous cystadenoma, laparoscopy.

### INTRODUCTION:

The ovaries are paired gonads in female and are concerned with germ cell maturation, storage and release of ovum. They are also concerned with steroidogenesis. Ovarian tumors are among the most frequent pathological conditions in gynecological practice and frequent cause of hospitalization and surgery [1]. Functional ovarian cysts and benign neoplasms make up most of these abnormalities. Vast majority of ovarian cysts in women of reproductive age are functional, follicular or corpus luteal cysts [2].

Most functional cysts resolve and can be observed although they cause menstrual irregularities, pain etc. Ovarian serous cystadenomas are benign tumors with simple cyst walls, small in size. Mucinous cystadenomas are multicystic and large in size. Mature cystic teratomas are more frequent germ cell tumors and are composed of one or more of three primitive germ cell layers. Ovarian thecomas or germ cell tumors originate in medulla, they are estrogen producing. Endometriomas are as a result from invagination of endometriotic tissue into the ovary.

The ovarian or benign ovarian tumors will show some complications like torsion, infection, intracystic hemorrhage, pseudomucinous peritonitis [3].

The American college of obstetrics and gynecology (ACOG) and society of gynecologic oncologists( SGO) published joint guidelines for referral to a gynecological oncologist. According to these guidelines, the provider should refer postmenopausal woman who have a pelvic mass that is suspicious for malignant ovarian neoplasm based on elevated CA-125, ascites, a nodular fixed pelvic mass, evidence of abdominal or distance metastasis or family history of one or more relatives with ovarian or breast cancer. The same criteria apply to premenopausal women except the threshold for CA-125 elevation is greater than 200 U/ml [4].

### METHODS:

This was a retrospective study conducted in Malla Reddy Hospital, Suraram, during a period of 8 months (October 2021-may 2022) on 25 patients with ovarian masses. This study was done to know the clinical symptoms of patients, requirement of surgery and histopathological correlation of ovarian tumors.

Ultrasound abdomen and pelvis was done for patients who came with symptoms and in those whom clinically an adnexal mass was felt. CA-125 levels were done for patients who were above the age of 40 years and in cases of ovarian tumors more than 7cms size.

Indication for surgery was large mass more than 7cms, mass with symptoms and solid components, persisting ovarian cyst less than

6cms even after 3 months of oral contraceptives, acute symptoms suggestive of torsion.

The decision for cystectomy or ovariectomy was taken on operation table. Specimen was retrieved and sent for histopathological study.

### RESULTS:

This was a retrospective study done in Mallareddy hospital, suraram, on 25 patients with ovarian masses from October 2021 -May 2022.

As we analyzed retrospectively these 25 cases, majority of patients presented with pain abdomen (32%), while 24% patients had vague heaviness in abdomen, least number of patients presented with infertility (8%).

The lesions on ultrasound which were well defined cystic lesions with internal echoes were confirmed histopathologically as endometriotic cysts (24%). The lesions which were well defined anechoic with thin septations on USG were confirmed as serous cystadenomas (12%) on histopathology, the lesions which were well defined anechoic with multiple thin septa were confirmed as mucinous cystadenoma (16%) on histopathology, the well defined anechoic cysts with reticular mesh like pattern were hemorrhagic ovarian cysts (16%) on histopathology, the heterogenous lesions with echogenic and solid component were confirmed histopathologically as dermoid/ teratomas (12%), solid lesions with small cystic changes with internal hemorrhages were granulosa cell tumor (4%) on histopathological examination.

Majority of the cases were endometriotic cysts which were 6 (24%), followed by corpus luteal cysts, hemorrhagic cysts and mucinous cystadenomas which were 4 cases each (16%), followed by serous cystadenomas and teratomas which were 3 each (12%). The least common were granulosa cell tumor which was 1 (4%).

In this study, majority of corpus luteal cysts responded for 3 months cyclical OC pills.

**TABLE 1: SYMPTOMATOLOGY OF CYSTIC OVARIAN TUMORS**

PRESENTATION	NUMBER OF CASES	PERCENTAGE
Abdominal pain	8	32%
Abdominal mass	6	24%
Menstrual irregularities	4	16%
Incidental finding	5	20%
Infertility	2	8%

**TABLE 2: CORRELATION BETWEEN HISTOPATHOLOGY AND ULTRASOUND FINDINGS**

HISTOPATHOLOGY	NUMBER OF CASES	USG REPORT
Endometriotic cysts	6	Well defined cystic lesion with internal echoes
Hemorrhagic cysts	4	Well defined anechoic cystic lesion with reticular mesh like pattern
Serous cystadenoma	3	Well defined anechoic cystic lesion with thin septations
Mucinous cystadenoma	4	Well defined anechoic lesion with multiple thin septa
Teratoma	3	Heterogenous lesion with echogenic cystic and solid components
Granulosa cell tumor	1	Solid lesion with small cystic changes with internal hemorrhage

**TABLE 3: INCIDENCE OF OVARIAN CYSTS**

TYPE OF CYSTIC LEISION	NUMBER OF CASES	PERCENTAGE
Corpus luteal cyst	4	16%
Endometriotic cyst	6	24%
Hemorrhagic cyst	4	16%
Serous cystadenoma	3	12%
Mucinous cystadenoma	4	16%
Teratoma	3	12%
Granulosa cell tumor	1	4%
Total	25	100%

**DISCUSSION:**

Cystic ovarian masses are mostly encountered in reproductive age group. These may be physiological or pathological. They can occur as functional cysts, benign or malignant tumors [5]. It is advised to examine clinically and perform ultrasound, CA-125 to arise at proper diagnosis, however histopathology gives the final diagnosis [6]. Ovarian malignancy is rarely seen in age group of 15 to 40 years [7]. However, the chances of malignancy increase as the age advances [8]. Functionally ovarian cysts which are unilocular usually resolve spontaneously [9]. Oral contraceptives over a period of 3 to 6 months also resolve functional cysts, this also helps to distinguish a physiological from pathological one [10].

In this study the incidence of tumors was mostly benign which was similarly reported by Pili, Gupta, Kayastha and by Neelgund et al.

In this study, the abdominal pain was commonest (32%), same incidence was also reported by Neelgund et al and Kagastha.

Among the benign epithelial tumors, serous cystadenoma was 3 (12%), mucinous cystadenoma were 4 (16%), endometriotic were 6 (24%) and teratoma were 3 (12%). In study by Mondal et al, serous cystadenoma were 29%, mucinous cystadenoma were 11 %, teratomas were 16%. Maliheh et al reported serous cystadenoma 31%, cystic teratomas 30% and mucinous cystadenomas 22 % in his study.

**CONCLUSION:**

Unilocular simple ovarian cysts are usually functional ovarian cysts and resolve spontaneously, 3 to 6 months of oral contraceptives, usually resolves them and this also helps to distinguish between physiological and pathological ovarian cysts. Benign ovarian tumors exhibit a wide range of clinical and histopathological patterns. Pain abdomen is the commonest symptom in cystic ovarian tumors. Ultrasonography accurately diagnosis mature cystic teratoma. Epithelial tumours are commonest of the benign ovarian tumours.

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