



A retrospective study on ovarian cystectomy

Dr. Lakshmi Lalitha Mannava^{1*}, Dr. Ravikanth GO², Dr. Geeta Doppa³, Dr. Sarada Devi B⁴

^{1,4} Junior Resident, Department of Obstetrics and Gynaecology, KVG Medical College and Hospital, Sullia, Dakshina Kannada, Karnataka, India

² Associate professor, Department of Obstetrics and Gynaecology, KVG Medical College and Hospital, Sullia, Dakshina Kannada, Karnataka, India

³ Prof and HOD, Department of Obstetrics and Gynaecology, KVG Medical College and Hospital, Sullia, Dakshina Kannada, Karnataka, India

Abstract

The ovaries are paired gonads in females and are concerned with germ cell maturation, storage and its release. The ovaries are also concerned with steroidogenesis. Ovary is covered by a single layer of cuboidal cells known as germinal epithelium. As per the clinical features of the benign ovarian tumors, benign tumors predominantly manifest in late reproductive age.

Methods: This is a retrospective study, where 64 cases of ovarian cyst during the period of Jan 2017 to Jan 2018 at Department of Obstetrics and Gynaecology, KVG Medical College and Hospital, Sullia were included in the study. Analysis of the ovarian cyst cases during this period was done to know the histopathology and clinical symptoms of patients who required the surgery for ovarian cysts. Another objective was to compare the clinical symptoms, ultrasonographic features and histopathology of patients who required the surgery for ovarian cysts. 46 cases were operated laparoscopically and patients who had large mass and unfit for laparoscopic surgery underwent conventional laparotomy.

Results: As we analysed retrospectively these 64 cases, there were 30 (46.8%) cases of benign cystic ovarian tumors, of which 12 (18.75%), cases were serous cystadenoma which was the commonest of all in this study. This was followed by mature cystic teratoma in 11 (17.1%) and mucinous cystadenoma 6 (9.37%). We came across only one (1.23%) case of malignant ovarian tumor, which was found in a postmenopausal woman. Borderline malignancy was encountered in 1 patient (1.56%), which was a borderline mucinous tumor.

Conclusions: Benign cystic ovarian tumors were common cause of ovarian cysts and of which serous cystadenoma was the commonest. Patients presented with vague symptoms, hence clinical symptoms could not differentiate between the type of cyst. Ultrasonography and histopathology helps us to arrive to definitive diagnosis but however histopathology gives us the final diagnosis.

Keywords: ovaries, diagnosis, females, retrospective, cystectomy

Introduction

The ovaries are paired sex glands or gonads in female and are concerned with germ cell maturation, storage and its release, steroidogenesis. The non-neoplastic enlargement of the ovary is usually due to accumulation of fluid inside the functional unit of the ovary. The functional cysts of the ovary are related to temporary hormonal disorders. The functional cysts can be distinguished from the neoplastic cysts as they are, usually 6-8 cm, asymptomatic, regress spontaneously, are unilocular, contains clear fluid and lining epithelium is functional epithelium of the unit from which it arises^[1]. As per the clinical features of the benign ovarian tumors, the benign tumors predominantly manifest in late reproductive age. However, dermoid and mucinous cystadenoma are common in reproductive age groups and have no distinguishable clinical features. Ultrasonography is the major modality for identifying these lesions, it is also to some extent useful to differentiate benign from malignant. The current study is taken up to evaluate the USG findings and compare retrospectively with histopathology report and clinical presentation, thus to identify any value or significance of these findings in making an accurate preoperative diagnosis.

Objectives

To know the histopathology and clinical symptoms of patients who required the surgery for ovarian cysts and to compare the clinical symptoms, ultrasonographic features and histopathology of patients who required the surgery for ovarian cysts.

Materials and Methods

This retrospective study is conducted at Department of Obstetrics and Gynaecology, in KVG Medical College and Hospital, Sullia, D.K, during the period of Jan 2017 to Jan 2018. Of the 64 cases, 46 cases were operated laparoscopically; Patients who had large mass and unfit for laparoscopic surgery underwent conventional laparotomy. Indications for surgery were large mass >6 cm, mass with symptoms, solid components, persisting ovarian cyst <6 cm even after 3 months of oral contraceptive treatment or acute symptoms suggestive of torsion.

All elective cases were done after routine investigations, anaesthetic check-up and with valid consent after explaining procedure and complications of the surgery to the patients and their attendants (laparoscopy/ laparotomy).

The decision for cystectomy or ovariectomy was taken on the

operation table. Specimen was retrieved through the side port of laparoscopy. All the tissues were sent for histopathology analysis on the day of the surgery. Our patients were discharged 48hrs after laparoscopic

surgery and after 7 days after laparotomy. All patients were followed up after 2 week with histopathology report, retrospectively all the clinical symptoms, and histopathology reports are analysed.

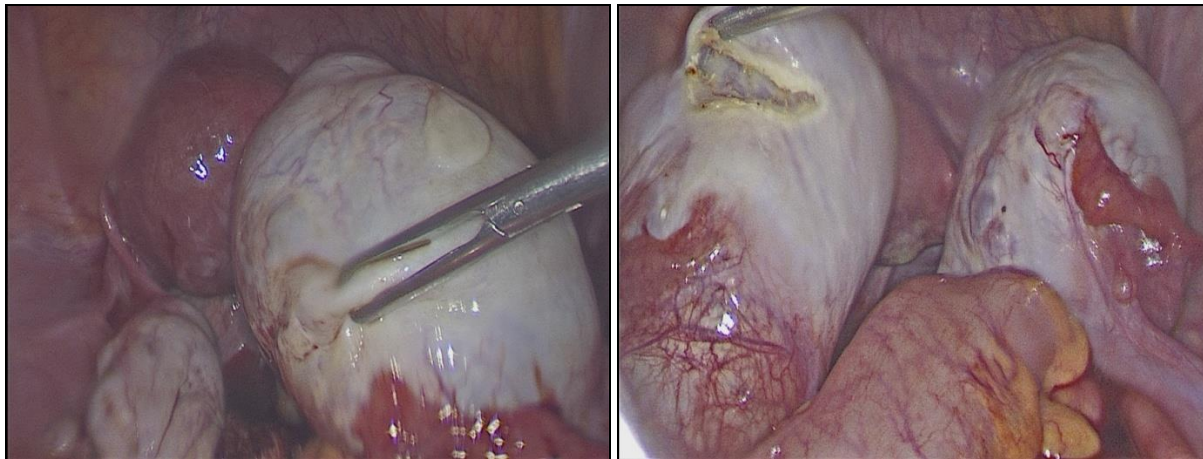


Fig 1: Laparoscopic ovarian cystectomy in (a)unilateral and (b)bilateral ovarian cysts

Results

This study was undertaken in KVG Medical College Hospital, Sullia, Dakshina Kannada, India. Our hospital is a tertiary care center, where we attend around 30-40 gynaecology patients per day in the outpatient department. This study was conducted during the period of 2017-2018, where came across 64 cases of ovarian cystic mass. The diagnosis of these cystic masses was based on the symptoms, clinical examination, transabdominal or transvaginal ultrasonography.

Table 1: Incidence of ovarian cysts and tumors

Type of cystic lesion	Number of cases	Percentage
Serous cystadenocarcinoma	1	1.56%
Simple follicular cyst	10	15.6%
Mature cystic teratoma	11	17.1%
Serous cystadenoma	12	18.75%
Mucinous cystadenoma	6	9.37%
Borderline mucinous tumor	1	1.56%
Para ovarian Cyst	2	3.12%
Haemorrhagic cyst	6	9.37%
Endometrioid cyst	8	12.5%
Corpus luteum cyst	7	10.9%

As we analysed retrospectively these 64 cases, there were 30 (46.8%) cases of benign cystic ovarian tumors, of which 12 (18.75%), cases were serous cystadenoma which was the commonest of all in this study. This was followed by mature cystic teratoma in 11 (17.1%) and mucinous cystadenoma 6 (9.37%). We came across only one (1.23%) case of malignant ovarian tumor, which was found in a postmenopausal woman. Borderline malignancy was encountered in 1 patient (1.56%), which was a borderline mucinous tumor (Table 1).

In our study there were 17 cases of functional cysts, of which 10 (15.6%) were simple follicular cysts and 7 (10.94%) corpus luteum cysts. Majority of these cases usually respond for three months of cyclical oral contraceptive pills. The patients with no response were subjected for the laparoscopy, which turned out to be cases of either paraovarian 2 (3.12%) or endometrioid cysts 8

(12.5%). One case of bilateral ovarian cyst with kissing ovaries was also noted, which was endometrioid cyst.

Table 2: Symptomology of cystic ovarian tumors

Presentation	Number of cases	Percentage
Abdominal pain	30	46.5%
Abdominal mass	5	7.8%
Menorrhagia/Dysmenorrhea	14	21.8%
Incidental	10	15.6%
Infertility	3	4.6%
Postmenopausal bleeding	2	3.1%

Majority of the patients presented with pain abdomen 30 (46.5%), which was vague and associated with a feeling of heaviness in the lower abdomen. A diagnosis was confirmed by ultra sonography and doppler study was done in patients with moderate to severe pain to rule out torsion of ovarian cyst. In the reproductive age group 14 (21.8%) cases presented with menorrhagia and dysmenorrhea.

Only 3 were diagnosed as cystic ovarian lesion by clinical examination. However, all were diagnosed by ultrasonography. Only 5(7.8%) patients presented with mass per abdomen. Only 2 (3.1%), patients presented as postmenopausal bleeding, and were diagnosed by ultrasonography as anechoic multiseptate ovarian cyst in 2 cases and one as anechoic multiseptate ovarian cyst with solid components. One was borderline malignant ovarian tumors, which was confirmed postoperatively by the histopathology (Table 2). Ten (15.6%) patients were found to have cystic ovarian masses incidentally by ultrasonography, of which 3 cases were investigated for infertility.

Mature cystic teratoma, which numbered 11 cases - (17.1%), was diagnosed by ultrasonography as cystic ovarian lesion with hyperechoic areas and calcification. The serous cystadenoma were reported as, anechoic cysts in 5 cases, anechoic cyst with septa in 2 cases and anechoic cyst with echoic foci in 5 cases. Functional ovarian cysts were reported as simple unilocular cysts, and haemorrhagic cysts as anechoic cysts. Ultrasonography results were correlated with the histopathological diagnosis (Table 3).

Table 3: Correlation between histopathology and usg findings

Histopathology	Number of cases	USG report
Serous cystadenocarcinoma	1	Multi septate anechoic cysts with solid components-1
Corpus luteal cyst	7	Simple unilocular cyst - 7
Para ovarian cyst	2	Simple unilocular cyst - 2
Endometriotic cyst	8	Simple unilocular cyst – 4, Cyst with internal echos – 3, Anechoic with septa-1
Hemorrhagic cyst	6	Anechoic cysts - 6
Simple follicular cyst	10	Anechoic with septa – 4, Simple unilocular cyst - 6
Mature cystic teratoma	11	Cysts with hyperechoic area/ calcification
Serous cystadenoma	12	Anechoic cysts- 5 Anechoic cysts with septa- 2 Anechoic cyst with echogenic foci -5
Mucinous cystadenoma	6	Multiseptate anechoic cysts- 4 Simple anechoic cyst- 2
Borderline mucinous tumor	1	Multiseptate anechoic cyst with solid components

Discussion

Cystic ovarian masses are commonly encountered ovarian tumors in women and they present with vague symptoms. Cystic ovarian lesions are either physiological, or pathological. They can occur as functional cysts, benign or malignant tumors [2]. It is very essential to differentiate as it requires executing a definitive treatment. As the symptoms are being vague in making the definitive diagnosis. It is advised to take the combination of clinical examination, Ultrasonography and tumor marker CA 125 levels to arrive at proper diagnosis. However, histopathology gives the final diagnosis [3]. Malignancy is usually less in ovary as the ovary is a partially cystic organ. Ovarian malignancy is rarely seen in the age group of 15-40 years [4].

The functional, non-neoplastic and benign cystic ovarian lesions are common in the younger age. However, the chance of malignancy increases as the age advances [5]. Functional ovarian cysts, which are unilocular usually resolve spontaneously [6]. Oral contraceptives, over a period of 3 to 6 months, also resolves the functional ovarian cysts, this also helps to distinguish a physiological ovarian cyst from a pathological one [7, 8]. A simple, unilocular cystic ovarian lesion, can be monitored with serial ultrasonography and CA 125, for its resolution over a period of time and unnecessary excision avoided. A unilocular echo free ovarian cyst, to be malignant, is less than 1.6% [9-11].

This study was undertaken, to analyse and correlate the histopathological diagnosis with the clinical presentations and ultrasound findings of the 64 cases of cystic ovarian masses. In our study, abdominal pain was the commonest symptom, 30(46.5%) cases; similar incidence was reported by Kayastha [12]. In our study benign cystic ovarian tumor was the commonest, the age incidence was 20 to 49 years, and pain abdomen was the commonest symptom. Similar findings were reported by Pilli, Gupta and Kayastha [13, 14].

Among the benign epithelial tumors, serous cystadenoma were 12(18.75%), mucinous cystadenomas were 6(9.37%). Bhattachery *et al.* reported benign epithelial tumors 61.60% and mature cystic teratoma 24.8% [15]. Gupta *et al.* reported the incidence of benign epithelial tumors as 48.8% and mature cystic teratoma as 23.9%. Mondal *et al.* reported, serous cystadenoma 29.9%, mucinuscystadenoma 11.1% and mature cystic teratoma 15.9% [16]. In our study also, benign epithelial tumors are more common and there is a preponderance of serous cystadenoma over mucinous cystadenoma. Maliheh *et al.* reported, that the commonest benign ovarian tumor was serous cystadenoma 38% followed by mature cystic teratoma 30%, mucinous cystadenoma 22% [13, 14]. Yasmin *et al.* reported serous cystadenoma 24% and mature cystic teratoma 18% [17, 18]. Maliheh reported Functional cysts as (57.54%) and

endometriotic cysts as (5.9%). Cohen *et al.* reported that ovarian endometriosis is common [19]. Serous cyst adenocarcinoma was the malignant ovarian tumor in our study, one case (1.56%). There was 1(1.56%) case of borderline mucinous tumor, in our study, Same findings were reported by Mondal *et al.* and Bhattachery *et al.* that epithelial malignant tumors are the commonest among malignancy. Kroon *et al.* reported that ultra-sonography diagnosed Mature Cystic teratoma accurately [20]. In our study all of the 11 cases of mature cystic teratoma were diagnosed by ultrasonography.

Conclusion

Benign cystic ovarian tumors were common cause of ovarian cysts and of which serous cystadenoma was the commonest. Patients presented with vague symptoms, hence clinical symptoms could not differentiate between the type of ovarian cyst. Ultrasonography and histopathology helps us to arrive to a definitive diagnosis but however, histopathology gives us the final diagnosis.

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