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CLINICO-PATHOLOCAL EVALUATION OF OVARIAN MASSES – RETROSPECTIVE ANALYSIS OF 255 CASES.

Obstetrics & Gynaecology

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ABSTRACT

Background- Ovarian masses have varied histology and presentation and are seen in all groups of females. Benign tumors are commoner in the younger age groups whereas malignant changes are more witnessed in older aged women. **Objective-** To objective of this study is to evaluate the presentation, surgical details and histopathology of all ovarian masses undergoing surgical management for ovarian tumors. **Methods-**This retrospective analysis of all women undergoing laparotomy at a tertiary care center in North India. Compilation of three years data is presented. Patient details were retrieved from the inpatient files from medical record section. **Results-** Pain abdomen was the commonest presentation. There were 122 (49.6%) cases of benign ovarian tumors, and 109 (42.6%) with malignancy. **Conclusions-** Ovarian cysts have varied presentation. Symptomatic and large cysts need surgical management.

KEYWORDS

Ovarian cysts, malignancy.

INTRODUCTION

Ovarian tumors constitute a heterogeneous group of lesions, which include benign, borderline and malignant tumors. These are often described as tumors that whisper because of vague clinical presentation.[1] 10% of women undergo surgery for an adnexal mass in their lifetime, despite the fact that only 1 in 6 (13%–21%) of these masses is found to be malignant. These attribute to 30 % of all cancers of female genital tract and is the Sixth most common cancer overall and second most common gynecological cancer. Lifetime risk of developing ovarian malignancy in women with no family history is 1.6% and increases to 5% in those with a family history. Commoner presentation is seen in patients with subfertility. The average age of presentation of benign masses is 32-24 and whereas for malignant masses it is above 41 years.[2]

Preoperative diagnostic modalities include serum tumor marker level estimation and imaging. The serum tumor marker- CA 125 is not specific. CA 125 level can be normal in early stages of ovarian carcinoma and can be raised in non-neoplastic conditions like endometriosis and pelvic inflammatory disease. The gynecologists are facing difficulty in clinical diagnosis of ovarian malignancy, as the presentation is insidious and generally asymptomatic in the early stages.

METHODOLOGY

This Retrospective study of 255 cases was conducted in a tertiary care hospital in North India. Data was collected from the data entry registers and medical record department from the year March 2015 to March 2018 and details of 255 patients who have undergone laparotomy for ovarian tumors were obtained. The histopathology details were taken from the pathology department from the registration details. The following parameters were noted-age of the patient, parity, presenting complaints, CA- 125 levels, site of lesion, and size of cyst, capsular rupture, and intraoperative ascites. The final histopathology report was noted. Data was entered in Microsoft excel and expressed in the form of number and percentage and Analyzed using SPSS program for windows version 2.

RESULTS

Of total 255 cases, there were 18 (7.1%) cases in age range of up to 10-20 years, 26 (110.2%) in range of 21–30, 53 (20.9%) in range of 31–40, 53 (20.9%) in range of 31–40, 82 (32%) cases in range of 41–50, 30 (14.1%) and 75(29.5%) women were above 50 years of age. Maximum patients were multiparous and majority, 129(50.8%) had parity above three. 37(14.6%) women were nulliparous. The presenting complaints were pain abdomen in 118 (46%), followed by abdominal distention in 48 women (18%).Others presented with gastrointestinal symptoms 33(12%), Menstrual complaints 22(8.6%) whereas exact nature of presentation could not be elicited in 34(13.3%). Tumor marker Ca 125 was more than 200 ng/dl in 50(19.6%) whereas it was within the range(less than 35ng/dl) in 156 (61%) women. Table 1 depicts the clinical details of the patients.

Table 2 explains the intraoperative findings. Of total 255 masses, 119 (46.7%) were in size range of 5-10 cm, 67 (29%) in range of 10–15 cm, 30(13%) in 15–20 cm, 39 (15%) in 20–25 cm, 5 (2.9%) in 25–30 cm size range. The intraoperative findings confirmed that 150 (67 %) were unilateral and 74 (33.3%) were bilateral. Intraoperative adhesions were noted in 25(9.8%) cases and none were seen in 230 (90%) cases. Similar was the distribution of intraoperative ascites.

Table 3 shows that 122(49.7%) lesions were of benign nature whereas malignancy was seen in 103(42.6%) cases .Rest of the tumors, 20 (7.8%) were borderline.

The distribution of various malignant and benign masses has been shown in Table 4.Of the malignant nature the most common was serous carcinoma 43(16.9%), followed by mucinous carcinoma in 14 (5.5%) women. The least common was endometroid carcinoma and mixed mullerian tumor seen in 4 (1.6) cases.

The commonest benign tumor was dermoid cyst seen in 36 (14.1) women followed by immature teratoma in 28 (115) cases followed by mucinous adenoma in 15 cases (5.9%). The rarest presentation was endometriosis seen in 3(1.2%) women. Borderline tumor was reported in a total of 20 (7.8%) cases.

DISCUSSION

Cystic ovarian masses are commonly encountered ovarian tumors and could be either physiological, or pathological. They can occur as functional cysts, benign or malignant tumors. Ovarian masses can present at any age with different histopathology the functional, nonneoplastic and benign cystic ovarian lesions are common in the younger age. It is very essential to differentiate as it requires executing a definitive treatment. As these can have vague discomfort or presentation a combination of tumor markers and ultrasonography could aid in a provisional diagnosis.

In our study women undergoing surgery for ovarian tumors ranges from 10 -75 years. Various studies have broadly described the age of presentation from as early as 3 months to late 80 [3,4,5]

Ovarian cystic lesions can have varied symptoms such as pelvic pain, pressure, bloating, abdominal discomfort and sometimes, menstrual irregularities or overlapping gastrointestinal symptoms which lead to a delay in diagnosis. Radiological investigations along with clinical examination could help in making an early diagnosis. In the present study 118(46%) women presented with pain abdomen. In a similar study on ovarian masses almost 58% women presented with abdominal pain.[5] Acute severe pain can occur in complicated ovarian cysts, torsion, infarction, or hemorrhage[6].

CA 125 also has an important role in differentiating benign and

malignant pelvic masses, especially preoperatively; as higher CA 125 levels are considered to correlate with a higher probability of malignancy 7 In our study 156(61%) patients had normal Ca 125 levels whereas malignancy was reported in 42% cases. It has been advocated that Ca 125 can also be raised in non-malignant conditions like endometriosis, uterine fibroids, pelvic inflammatory disease, early pregnancy, and normal menstruation [7] In premenopausal women, benign conditions such as endometriosis can elevate CA 125 levels to more than 1,000 U per mL (1,000 kU per L).[8]

Size of the cyst is an independent marker for prognosis. Timmermann et al9 reported the size of an adnexal mass to be an independent predictor of malignancy. In our study 119 (46%) cysts were less than 10 mm whereas larger cysts more than 20 cm were encountered in only 39 (15%) cases.

Unilaterality was observed in 150(67%) patients with left sided lesions being more common, 74(33%)showed bilateral involvement Most of the bilateral ovarian masses with multiple primary cancers in the literature are malignant in nature [10.] Intraoperative ascites was seen in 25(9.8%) women. It has been stated that the presence of ascites is highly predictive of ovarian malignancy though the absence of ascites may not always predict benign disease since nearly half of borderline tumors and 83% of early stage malignant ovarian tumors do not produce ascites.[11]

In our study the commonest malignant histology was those of the epithelial ovarian tumors. Serous carcinoma was reported in 43 cases followed by mucinous carcinoma in 14 (5.5%) cases. Same findings were reported by Mondal et al and Bhattacherya et al that epithelial malignant tumors are the commonest.[12]

Of the benign lesions the commonest was dermoid cyst in 36 cases followed by immature teratoma in 28 cases. According to the sources dermoid cyst is the most common solid type tumor and the most common ovarian mass to occur at young age.[13,14,15.] Risk factors of malignant transformation in dermoid cyst are summarized in the following 4 considerations: age of over 45 years, cyst size of more than 10 cm, rapid growth and abnormal sonograhic and Doppler findings including increased vascularity, hetero echo pattern, papillary projections and septation.

Bhattachery et al reported benign epithelial tumors (61.60%) and mature cystic teratoma (24.8%). [12] In our study Endometriosis was reported in only 3 cases. Previous studies have suggested that a comorbidity association exists between endometriosis and many benign gynecological tumors [16,17,] although the results of certain studies differ and are unexpected. Tubercular cysts were reported in 13 cases in our study group. Tuberculosis of the upper genital tract is a rare disease in the developed world but should be always considered in the differential diagnosis of a pelvic mass in women from developing countries as well as the HIV positive patients. It is a frequent cause of chronic pelvic inflammatory disease (PID) and infertility.[18]

In our study epithelial ovarian cystadenomas (serous and mucinous) were observed in a total 26 (10.2%) cases. Maliheh et al reported, that the commonest benign ovarian tumor was serous cystadenoma (38%) followed by mature cystic teratoma (30%), mucinous cystadenoma (22%), Yasmin et al reported serous cyst adenoma (24%) and mature cystic teratoma (18%).[19,20]

CONCLUSION

Unilocular simple ovarian cysts are usually functional ovarian cysts and resolve spontaneously. Surgical management is required in large cysts and symptomatic cases. Pain abdomen is the commonest symptom in cystic ovarian tumors. Benign ovarian tumors exhibit a wide range of clinical and histopathological patterns. Epithelial tumors are commonest of the benign ovarian tumors.

Table1 Clinical profile of patients

AGE	n = 255	Percentage	
	10 - 20	18	7.1%
	21 - 30	26	10.2%
	31 – 40	53	20.9%
	41 - 50	82	32%
	50 -75	75	29.5%
PARITY			
	P1	31	12.2%
	P2	57	22.4%
	P3 and above	129	50.8%
	Nulliparous	37	14.6%
PRESENTING COMPLAINTS			
	Abdominal pain	118	46%
	GI Symptoms	33	12%
	Abdominal Mass/distention	48	18%
	Menstrual complaints	22	8.6%
	Not Known	34	13.3%
CA125 levels			
	Less than 35ng/ml	156	61%
	36 – 200 ng/ml	49	19.2%
	More than 200ng/ml	50	19.6%

Table 2 Intraoperative findings

Size of Cyst	n = 255	Percentage			
5 – 10 cm	119	46.7%			
10-15	67	29%			
15-20	30	13%			
More than 20 cms	39	15%			
Site of lesion					
Unilateral	Left Right	150	102 48	67%	68% 32%
Bilateral	74	33%			
Capsular rupture					
Yes	31	14%			
No	224	86%			
Presence of adhesions					
Yes	25	9.8%			
No	230	90%			
Ascites					
Present	25	9.8%			
Absent	230	90%			

Table 3 –Histopathology details

Final HPE	n=255	Percentage
Malignant	103	42.6%
Benign	122	49.7%
Borderline	20	7.8%

Table 4 FINAL HISTOPATHOLOGY

Malignant tumors	Type of HPE	n=255	%
	Serous cystadenocarcinoma	43	16.9
	Mucinous cystadenocarcinoma	14	5.5
	Clear cell carcinoma	13	5.1
	Endometroid tumour	4	1.6
	Undifferentiated carcinoma	5	2
	Mixed mullerian	4	1.6
	Sertoli celi	9	3.5
	Yolk sac tumour	6	2.4
	Dysgerminoma	6	2.4
	Fibroma	6	2.4
	GCT	13	5
Benign lesions			
	Serous adenoma	11	4.3
	Mucinous adenoma	15	5.9
	Immature teratoma	28	11
	Dermoid	36	14.1
	Endometriosis	3	1.2
	Tubercular	13	5.1
Borderline	Borderline serous cyst	9	3.5
	Borderline mucinous	11	4.3

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