Original Research Article

Retrospective study of clinico-pathological features of ovarian tumors

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ABSTRACT

Background: Ovarian masses are a frequent clinical diagnosis in general Gynecology. The aim of the present study was to assess risk factors, clinical features, CA 125 levels, histopathological diagnosis of the patients of all ovarian tumors that underwent surgical management between August 2013 to August 2017.
Methods: This was the retrospective study conducted in the department of Obstetrics and Gynecology in MIMER Medical College. We studied 50 patients those who underwent surgical management. Most of the patients 56% were in the reproductive age group, 28% patients were in the perimenopausal age group, 14% were in the postmenopausal age group. 82% patients were parous.
Results: Pain abdomen was most common symptom in 50% patients. Bilaterality of the tumor was common in malignant tumors. CA 125 was found to be increased more in malignant tumors. Most common co morbid condition was hypertension found in 12% patients. Most common ovarian tumor found was serous cystadenoma 34% and most common malignant tumors were serous cystadenoma carcinoma 16%.
Conclusions: Out of all operated patients 11 (22%) were malignant, 37 (74%) were benign and 2 (%) were borderline tumors. Out of all malignant tumors 8 (72%) were serous cysadenocarcinoma. It is difficult to always differentiate between malignant and benign tumors clinically. Analysis of risk factors and protective factors, thorough abdomino-pelvicbimanual examination, certain features on radiological imaging, presence of ascites and bilaterality, CA125 levels, helps increasing the accuracy of the diagnosis.

Keywords: CA 125, Clinical features, Histopathological diagnosis, Risk factors, Ovarian tumors

INTRODUCTION

Ovarian masses are a frequent clinical diagnosis in general Gynecology. They can be benign, malignant or functional ovarian cysts. Differentiation into these categories is not always possible clinically using imaging modalities & various tumor markers. The final diagnosis mostly depends on histopathological examination. Thus, the management of such tumors must balance the risks of performing an operation for a benign lesion with the risk of not removing the malignant ovarian pathology. Benign masses are seen in premenopausal and majority of malignant masses are seen in postmenopausal women.[1] Ovarian carcinomas represents 6th most common cancer in the females and 4th leading cause of cancer death in women.[2] Symptoms may include abdominal pain, fatigue, bloating, constipation, urinary symptoms, weight loss etc. In ovarian malignancy these symptoms are of greater severity. The presenting symptoms can be acute and severe in case of torsion or rupture of the cysts. Presently Ovarian cysts rarely grow immense due to the fact that ultrasound scanning permits detection and appropriate treatment in time.[3] But in rural set up, still we find huge ovarian masses: benign as well as malignant. The bimanual examination is the most practical method for adnexal mass screening.[4] Transvaginal sonography measuring the ovarian volume also helps as a reliable screening test.

Sonography, MRI and CT are the imaging techniques, which will help in delineating the nature of adnexal mass. Various tumor markers guide us about various histological types like CA-125 would be suggestive of epithelial cell tumors.

METHODS

This study is a retrospective observational study. The data of all ovarian masses operated in MIMER Medical College, Talegaon, Dabhade between August 2013 to August 2017 were obtained and analyzed.

After obtaining histopathology reports from Pathology Department the case records were obtained from record section. The inclusion criteria were all cases of ovarian masses, which were subjected for surgery. The total of 50 cases were obtained and studied. Collection of data included age at presentation, parity, symptoms, presence of comorbidity, tumor markers, histopathological reports. Collected data was tabulated and analyzed using suitable statistical tools.

RESULTS

50 patients were included in the retrospective study. Out of 50 patients 26 (52%)were in the age group of 20-40 years, 16 (32%)were in the perimenopausal age group and 7 (14%) patients were in the postmenopausal age group. The youngest patient was of 17 years old and the oldest was of 70 years. Malignant ovarian tumors were mostly found in perimenopausal and postmenopausal age group. Patients of all malignant tumors patients were of these age group.

Table 1: Age distribution.

Age group	Benign Tumors	Malignant Tumors	Borderline Tumors
<20 years	1	0	0
20-40 years	26	0	0
Perimenopausal	7	7	2
Post-menopausal	3	4	0

Most ovarian cysts are asymptomatic and are found incidentally on routine pelvic examinations or during USGs for another indication. But in the present study the most common symptom was pain in abdomen in 25 (50%) patients. Severe dysmenorrhea was indicative of endometriosis with endometrium and dull ache or pressure may be due to stretching of ovarian capsule.

Table 2: Parity distribution.

Parity	No. of patients
Parous	41
Nulliparous	9

4 (8%) women presented with severe pain in abdomen, vomiting and tachycardia s/o torsion. 14 (28%) patients presented with mass per abdomen, 4 (8%) with vague discomfort and 3(6%) were asymptomatic patients. In advanced ovarian malignancies women noted increased abdominal girth from ascites or from enlarged ovary.

Table 3: Symptom wise distribution of patients.

Symptoms	No. of patients
Asymptomatic	3
Mass per abdomen	14
Pain in abdomen	25
Acute and severe pain (torsion)	4
Vague discomfort	4

Ovarian mass presented as right sided ovarian mass in 25 (50%) patients; in 12 (24%) patients it was left sided mass. Out of 14 (28%) patients presented with bilateral masses, 7 were benign, 5 were malignant and 2 cases were reported as borderline tumors. Most 5 (45%) of all malignant tumors (11) were found to be bilateral.

Table 4: Laterality of the Ovarian mass.

Laterality	Benign Tumors	Malignant Tumors	Borderline Tumors
Right	22	3	0
Left	9	3	0
Bilateral	7	5	2

In the present study 8 (16%) patients had CA 125 raised high that is >200U/ml, 9 (18%) patients had CA 125 between 35-200 U/ml and 33 (66%) patients were having CA125 <35U/ml. Out of all malignant tumors 10 (90%) patients having raised CA-125 levels. 5 (13%) patients out of all benign tumors also had raised CA-125 levels.

Table 5: CA 125 levels.

CA 125 Levels (U/ml)	Benign Tumors	Malignant Tumors	Borderline Tumors
<35	32	1	0
35-200	5	4	0
>200	0	6	2

In the study 39 (78%) patients were having no comorbid condition, 4 (8%) patients were having hypothyroidisum, 1 (2%) patient had diabetes mellitus, 6 (12%) patients had hypertension.

Table 6: Comorbidity.

Comorbidity	No. of patients
No comorbidity	39
Hypothyroidism	4
Diabetes Mellitus	1
Hypertension	6

In the study most, common histopathological diagnosis was serous cystadenoma 17 (34%) patients, 11 (22%)

patients had diagnosis of simple ovarian cyst, 7 (14%) patients had diagnosis of mature cystic teratoma, 8 (16%) patients had a diagnosis of Serous cystadenomacarcinoma.

Table 7: Histopathology.

Histopathology report	No. of patients
Simple ovarian cyst	11
Mature cystic teratoma	7
Ruptured corpusleauteal cyst	1
Serous cystadenoma	17
Tuberculous tub ovarian mass	1
Borderline serous neoplasam	2
Serous cystadenoma carcinoma	8
Mucinous cystadenomacarcinoma	2
Dysgerminoma	1

DISCUSSION

Ovarian tumors have varied age wise, clinical, morphological, histological presentation. In the present study most of the benign tumors 26 (52%) were seen in age group of 20-40 years and most of the malignant tumors were seen in perimenopausal 7 (63%) and menopausal 4 (36%) age group. Scully et al so observed around 75% of the ovarian tumors in reproductive age group.[5] In Ruchika et al study 77.3% malignant tumors were found in reproductive age group and 13.6% were found in postmenopausal age group.[6] Of all patients 4 (8%) having malignant tumor were of postmenopausal age group.

In the present study out of 9 nulliparous patients 3 (33%) had benign ovarian tumor while 6 (67%) patients had malignant ovarian tumor. Thus, nulliparity increases the risk of malignant tumor.[7]

In the present study most, common presenting symptom was pain abdomen in 25 (50%) patients. 14 (28%) patients had complaints of distention/mass per abdomen, 4 (8%) patients had vague abdominal discomfort and 3 (6%) were asymptomatic. Dramatic presentation with tossing in bed, vomiting, tachycardia was seen in 4 (8%) patients presented with torsion. Ovarian malignancies are said to be 'silent killers' that they lack appreciable signs and symptoms. But we found that patients are actually symptomatic for several months before the diagnosis.

The difficulty was in distinguishing these symptoms from those that women normally have. In malignant tumours we had pain in abdomen and distention / mass in abdomen as the common symptoms. In study by Ruchika et al 73% of the malignant tumors presented with abdominal distension, 52% with the pain, 21.5 with the constitutional symptoms ,10.5% with the gastrointestinal symptoms.[6] In study done by Yogambal and Arunalata pain abdomen was commonest symptom that is 66.92% followed by mass abdomen 28.11%.[2] Rashid et al had commonest symptom as pain (50%), followed by

abdominal mass/distension (37%).[8] In other study done in 2015 in Saudi Arabia most common symptom was abdominal pain.[9]

Tumor markers are proteins produced by tumor cells or the body response to tumour cells. Of all markers CA 125 which is commonly used is secreted by the mesothelial cells of peritoneal, pericardial and pleural linings. It is often elevated in epithelial tumors. But it is not a tumor-specific antigen as it is also found raised in fibroids, endometriosis, adenomyosis, salpingitis and 1% of healthy individuals. In the present study 8 (16%) patients had CA125 levels >200U/ml, 9 (18%) patients had CA125 levels in the range of 35-200U/ml, 33 (66%) patients had CA125 levels <35U/ml. Most of the patients with raised CA125 levels were having epithelial ovarian tumors. So CA125 is having more sensitivity but lesser specificity for epithelial tumors. CA125 antigen has become standard component for diagnosis of advanced ovarian tumors.[10] Normal levels of CA125 is <35U/ml.[11]

In the present study most common associated comorbid condition was hypertension, others were hypothyroidism and diabetes mellitus.

In this study, 37 (74%) were benign tumors 11 (22%) tumors were malignant and 2 (4%) were borderline serous tumors. In study done by Soumini G et al 84.16 patients were neoplastic and nonneoplastic were 15.84%.[12] In Garg R et al 44% patients were malignant.[6] We found serous cystadenoma as the most common histopathological type of ovarian tumor found in 17 (34%) of patients, simple cyst found in 11 (22%) patients, mature cystic teratoma found in 7 (14%), and serous cystadenomacarcinoma in 8 (16%) patients.

CONCLUSION

Out of all operated patients 11 (22%) were malignant, 37 (74%) were benign and 2 (%) were borderline tumors. Out of all malignant tumors 8 (72%) were serous cysadenocarcinoma. It is difficult to always differentiate between malignant and benign tumors clinically. Analysis of risk factors and protective factors, thorough abdomino-pelvicbimanual examination, certain features on radiological imaging, presence of ascites and bilaterality, CA125 levels, helps increasing the accuracy of the diagnosis.

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