

Analysis of Patients Presenting with Adnexal Mass in a Tertiary Care Centre

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ABSTRACT

Introduction: Adnexal masses are a common diagnosis in Gynaecology out-patient department. It can be benign or malignant. To arrive on a diagnosis, patient should be subjected to clinical examination and a variety of investigations. Management is tailored according to the diagnosis, age of the patient and the reproductive goal of the patient in future.

Aim: To evaluate the proportion of benign and malignant aetiology in patients presented with adnexal mass and secondarily to correlate preoperative diagnosis with the histopathological diagnosis.

Materials and Methods: A prospective observational study was conducted, where patients with adnexal masse presented during one year were included. After work-up for all the patients, appropriate case based management was done. Clinical diagnosis of benign or malignant as pre-operative was

co-related with histo-pathology and proportion of benign and malignant cases were noted.

Results: Total 81 cases with the diagnosis of adnexal mass were included in the study. Mean age of presentation was 36.26 years. Most common presentation was pain in abdomen; 70 (86.4%) patients had benign masses, while 11 (13.6%) masses were malignant including two cases of borderline variety. Both patients underwent exploratory laparotomy with peritoneal lavage with total abdominal hysterectomy with bilateral salpingo-oophorectomy with infracolicomentectomy.

Conclusion: All Adnexal masses need to be evaluated clinically and radiologically. All investigations should aim at to differentiate benign and malignant masses. Preoperative diagnosis of benign or malignant mass is very important to plan optimum management of the case.

Keywords: Adnexa, Benign, CA-125, Imaging, Malignant, Tumour markers

INTRODUCTION

Adnexal masses are not uncommon to be seen in a day today busy gynaecological OPD. Anatomically, the term 'Adnaxa' is used for the appendages of the uterus, namely, both the fallopian tubes, ovaries and broad ligament, so, any mass, whether benign or malignant arising from these structures should be included under adnexal masses.

Diagnosis of an adnexal mass requires detailed clinical history and examination, imaging modalities including ultrasonography and computerised tomography and tumour markers which collectively known as Triple diagnostic method [1].

Ovarian masses remain the most important among all case of adnexal masses and ovarian cancers are the third most common cause of female genital system malignancy [2]. Management of these cases primarily depends upon the risk of malignancy, for which many scoring systems are available. The most widely used scoring system is Risk malignancy scoring (RMI). It is calculated with age of the patient, USG findings and CA-125 level [3]. RMI is very effective tool for discriminating benign from malignant ovarian masses with specificity as good as 97%.

The aim of the present study was to evaluate the proportion of benign and malignant aetiology in patients presented with adnexal mass and secondarily to correlate preoperative diagnosis with the histopathological diagnosis.

MATERIALS AND METHODS

Present study was a prospective observational study conducted in a tertiary care institute of Eastern India catering mainly on semi-urban population for the duration of one year (June '2016-May '2017). Study was approved by Institute's ethics committee (approval number: IEC/AIIMS/PAT/168/2017p). A written consent was obtained from the patient prior to enrollment in the study. During this period, all patients presenting with adnexal masses on

clinical examination and investigations and willing to be the part of study were included.

Exclusion criteria were; any mass with aetiology other than adnexal mass like subserosal fibroid or intestinal/ mesenteric origin and patient unwilling to participate in the study.

All the patients included in the study were subjected to detailed history and clinical examination including general and gynaecological examination. Apart from basic blood biochemistry and haematological investigations, Imaging was done by ultrasonography (and contrast enhanced computerised tomography, wherever indicated). Relevant tumour markers (CA-125 in all cases, Alpha fetoprotein, LDH and HCG, in case of patients aged below 35 years, CEA if suspicion of primary Gastro-intestinal malignancy or incases of Krukenberg's tumour) were done. Risk malignancy score was calculated for each of the patient (CA-125 X MX U). With the help of these investigations, a provisional diagnosis was made and patient was operated as per the diagnosis. Final histopathological diagnosis was obtained from the Department of Pathology. RMI was co-related with provisional diagnosis and final diagnosis after histo-pathology report.

All details including patient's demographic details, presenting symptoms, examination findings, investigations (imaging report, tumour markers), Risk Malignancy Score, operative procedure and peroperative findings and final histopathological report were taken into account and were filled in a pre-designed proforma.

Data were further entered in Excel sheet and Statistical analysis was done and results were obtained in the form of mean and percentage, wherever applicable.

RESULTS

In the present study, total 81 patients presented with adnexal masses were included and following observations were made. One patient was excluded from the study, who was diagnosed as adnexal mass on USG, but on laparoscopy, patient had degenerated sub-serosal

fibroid, for which myomectomy was done. Age of the patient ranged from 13 years to 62 years, and mean age of presentation was 36.26 years [Table/Fig-1].

Age	No. of patients	Percentage
13-24	12	14.81%
25-34	22	27.16%
35-44	29	35.80%
45-54	14	17.29%
55 or above	4	4.94%
Total	81	100

[Table/Fig-1]: Age related incidence of Adnexal masses (n=81).

Majority of the patients belonged to peri-menopausal age group. Four patients were in adolescent age group, out of which, one had endometrioma, one serous cystadenoma, one pure dysgerminoma and one had immature teratoma. Only four patients were post-menopausal, two were found to have malignant ovarian masses, while other two had benign masses.

The most common presenting symptom was pain abdomen followed by lump abdomen. Nine patients presented with acute abdomen with adnexal mass, out of which, seven were found to have ectopic pregnancy and two patients had torsion of ovary [Table/Fig-2].

Symptom	No. of patients	Percentage
Asymptomatic	2	2.3%
Abdominal pain	35	43.3%
Abdominal lump	31	38.3%
Infertility	4	4.9%
Acute abdomen	9	11.2

[Table/Fig-2]: Symptomatology at presentation (n=81).

Unilateral masses were found to be more common than the bilateral one. Out of total 81 patients, 73 patients presented with unilateral ovarian masses (39 left, 34 right), 8 patients presented with bilateral masses, out of which, 5 had bilateral endometrioma and three masses were malignant.

All of these cases were diagnosed to have an adnexal mass during clinical examination only except for one, who presented with pain abdomen and found to have hydrosalpinx on USG.

Out of 81 cases, 70 (86.4%) were found to have benign aetiology, 11 (13.6%) cases had malignant aetiology [Table/Fig-3].

	No. of Patients	Percentage
Benign	70	86.4%
Malignant	09	11.1%
Borderline	02	02.5%

[Table/Fig-3]: Histopathological types of various Adnexal masses (n=81).

Among 70 cases with benign aetiology, 15 were having serous cystadenoma, 4 with mucinous cystadenoma and 14 were having endometriosis. Two cases mimicking malignancy were found to have benign aetiologies. In one case, diagnosis was xantho-granulomatous ovary and in one patient there was a huge mass with dense adhesions with raised CA-125 and was diagnosed as tuberculosis [Table/Fig-4].

Out of 11(13.6%) malignant cases, two were of borderline variety [Table/Fig-5]. Two borderline cases were each one of Borderline mucinous cystadenocarcinoma (50%) and Borderline serous cystadenocarcinoma (50%), respectively [Table/Fig-6].

Among all malignant cases on histopathological examination, 66.7% had their RMI score >200 and among benign cases 94.3% had RMI score <200 [Table/Fig-7]. In our series, sensitivity is 63.64% (95% CI=30.79% to 89.07%) and specificity is 94.29% (95%CI=86.01% to 98.42%).

Pathology	Distribution of cases (N=70)
Ectopic pregnancy	7 (10%)
Endometriosis	14 (20%)
Serous cyst adenoma	15 (21.4%)
Mucinous cyst adenoma	4 (5.7%)
Hydrosalpinx	4 (5.7%)
Broad ligament fibroid/cyst	6 (8.6%)
Haemorrhagic cyst	5 (7.1%)
Dermoid	3 (4.3%)
Endometriosis+ xanthogranulomatous reaction	2 (2.8%)
Endometriosis+ serous cyst adenoma	1 (1.4%)
Inflammatory myofibroblastic tumour (IMT)	1 (1.4%)
Xanthogranulomatous ds	1 (1.4%)
Tuberculosis	1 (1.4%)
Corpus luteum cyst	2 (2.8%)
Serous cystadenofibroma	1 (1.4%)
Infarcted ovary	1 (1.4%)
Chronic inflammatory cyst	1 (1.4%)
Mesonephric duct rest	1 (1.4%)

[Table/Fig-4]: Detailed histopathology of all benign cases (n=70).

Pathology	Distribution of cases (N=9)
Serous cystadenocarcinoma	2 (22.22%)
Mucinous cystadenocarcinoma	1 (11.11%)
Endometrioid carcinoma	2 (22.22%)
Dysgerminoma	1 (11.11%)
Sex cord stromal tumour	1 (11.11%)
Immature teratoma	1 (11.11%)
Mixed (epithelial+germ cell tumour)	1 (11.11%)

[Table/Fig-5]: Detailed histopathology of all malignant cases (n=9).

Borderline	N=2
Borderline mucinous	1 (50%)
Borderline serous	1 (50%)

[Table/Fig-6]: Histopathological details of Borderline cases.

RMI	Benign (n=70)	Borderline(N=2)	Malignant(n=9)
<200	66 (94.3%)	1 (50%)	3 (33.3%)
>200	4(5.7%)	1 (50%)	6 (66.7%)

[Table/Fig-7]: Distribution of subjects by RMI less than/more than 200.

DISCUSSION

Incidence of ovarian cancer is strongly related to age to the extent that more than half of the cases (53%) are diagnosed in females aged 65 years or more [4]. In this series, 6 out of 9 malignant cases belonged to age group >40 years (66.67%)

For diagnosis of adnexal mass pelvic examination is found to be very sensitive, as we could identify presence of mass in all cases by examination only except in one, however, investigations were needed for further work up. This is in agreement with other studies as well [5,6], though we agree that clinical examination always has its own limitations but in developing countries like India, where investigation facilities are not always available at remote settings, training should be exhaustive to diagnose or suspect these cases on clinical examination, so that, timely and proper referral and early treatment is provided. There are contradictory studies available in the literature where the sensitivity of clinical examination in detection of adnexal masses were found to be low [7] but, here we want to emphasise that clinical examination is an inevitable part of diagnosis of any adnexal mass and is always very informative, if done in a meticulous and precise way,

though investigations are needed to further assessment and management plan.

It is important to differentiate between benign and malignant masses before proceeding to treatment and various tools are being used for the same, RMI [8,9] is a time-tested tool for the same and as protocol, is included in work up of all cases of adnexal masses at our institute. In the present study also, we found it to have good predictive value [10,11], as indicated in other studies as well. In our series, sensitivity is 63.64% (95% CI=30.79% to 89.07%) and specificity is 94.29% (95%CI=86.01% to 98.42%), which is in agreement of studies done in past showing sensitivity and specificity of 58% and 97% respectively [3].

Hence, it is important to emphasise here that RMI did not lose its significance even after availability of so many newer tests and scoring systems, because it is simple, easier to use, not involving huge cost, and have good predictive value.

LIMITATION

Limitations of our study are, it being a short term study and that patient follow-up data did not form a part of this study.

CONCLUSION

Diagnosis of adnexal mass needs a good clinical examination supplemented by imaging and use of case appropriate tumour markers. Preoperative diagnosis of benign or malignant mass is very important to plan optimum management of the case. RMI is proved to be an important tool in preoperative assessment and further planning of management.

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