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Original Article

Clinicopathological Study of Patients Presenting with Adnexal Masses

Asma Batool, Attiya Begum, Sobia Nawaz, Mussarat Sultana, Saima Perveen, Naveed Iqbal.
Department of Gynae/Obs, DHQ Hospital & Rawalpindi Medical University

Abstract

Background: **To assess the clinicopathological outcome of women with adnexal masses .**

Method: **In this observational study patients with a diagnosis of adnexal mass, who underwent laparotomy, were included. All the patients were evaluated by a complete history, general abdominal and pelvic examination, followed by ultrasonography. Their preoperative findings are then correlated with surgical findings and histopathological diagnosis. Descriptive statistics are applied and results shown in the form of frequencies and percentages.**

Result: **In 50 patients commonest presenting symptom was pain abdomen followed by mass abdomen. Ultrasound features correlate well with histopathological features. Majority (94.6%) patients had benign adnexal pathology and 5.4% had malignant pathology. Most common neoplasms were surface epithelial tumours followed by dermoid cyst.**

Conclusion:**Demographic detail, ultrasonography and CA-125 are good preoperative indicators of malignant nature or benign nature of adnexal masses. Most common adnexal tumours are surface epithelial tumours followed by dermoid cysts and malignant tumours are common in postmenopausal group.**

Key words: **Adnexal mass, Salpingoopharectomy, Dermoid cyst.**

Introduction

Adnexal masses are commonly presented in gynaecological practice among women of all ages. About 20% of women develop an adnexal mass at some time in their lives.[1] An adnexal mass may be gynaecological or non-gynaecological. Adnexal masses were classified as benign and malignant adnexal masses on the basis of histopathologic diagnosis. Benign adnexal masses may be non-neoplastic which include simple cysts, pseudo-cysts, para-ovarian cysts, torsed or enlarged ovaries without histologic pathology or neoplastic which include mature teratomas and cystadenomas. Malignant adnexal masses include all malignant and borderline tumours, tumours with malignant potential such as partially immature teratomas, or masses that proved to be malignant in their clinical course. Surgical emergencies of gynaecological origin occur in women of reproductive age group and sometimes in adolescents. Early diagnosis and intervention is essential to conserve the function of ovaries and to prevent further complications. Peptic et al report an increased rate of ovary sparing procedures but also pointout that too many oophorectomies are still performed.[2]They can cause chronic lower abdominal pain or acute pain due to rupture of ovarian cyst, torsion of adnexa with or without a tumor, haemorrhage into a cyst, acute pelvic infections and non-gynaecological causes as well. Malignancy and endometriomas has to be kept in mind in peri-menopausal women. Conservation of ovaries should be considered in young women and only cystectomy should be done, whereas hysterectomy with the removal of the ovaries and tubes is possible in perimenopausal and postmenopausal women.[3] Ultrasound is the most common initial approach for diagnosis of adnexal masses.[4] Risk of ovarian malignancy increases with ovarian mass size greater than 6 cm, bilaterality, septation, and presence of ascites.[5-7] CA-125 a tumour marker may help in some cases.However Computerized tomogram (CT) may be needed for some cases. There are many reports on the role of various imaging modalities like ultrasound, CT scan and magnetic resonance imaging in the diagnoses and management of adnexal pathologies, but clinicopathological studies are few.[8]

Patients and Methods

This observational study period was performed from April 2016 to October 2018, at DHQ Teaching Hospital, Rawalpindi.Women surgically managed for adnexal pathologies, who presented with adnexal masses, were included..All patients underwent laparotomy. Patients with pregnancy were excluded from the study.Information on age, parity, presenting symptoms, clinical and imaging (mainly ultrasound of the pelvis and abdomen) diagnosis, mode of surgical approach and histology was collected from the patient's records. CA-125 was the main tumor marker

sent apart from β human chorionic gonadotropin in reproductive age group women. Serum alpha fetoprotein (AFP) and lactate dehydrogenase (LDH) was also done in women with suspected dermoid cysts. Descriptive statistics were applied and results were shown in the form of frequencies and percentages. The study was approved by the Institutional ethical committee.

Results

The total admissions to the gynaecology ward were 1625 in the study period. Number of cases of adnexal masses with surgical interventions were 56 with an incidence of 3.5%. Out of these 56 patients, record for 6 patients was not available. So 50 patients were available for analysis. Incidence of benign adnexal masses was 94.6% and malignant ovarian masses was 5.4%.The age at presentation ranged from 18 years to 70 years with mean age at 31.1years. Majority (72%) patients were between 20-50 years of age,14% patients were less than 20 years and 14% patients were between 50-70years of age. Abdominal pain was the commonest presenting symptom (64%) (Table 1).

Table 1: Adnexal masses-presenting complaints (n=50)

	No	Percent
Pain abdomen	32	64.0
Mass abdomen	9	18.0
Secondary amenorrhoea	1	2.0
Primary infertility	2	4.0
Post menopausal bleeding	4	8.0
Oligomenorrhoea	2	4.0

In present study CA125 levels were within normal limits in 37 (74%) patients,in 2(4%) patients it was markedly raised and both were malignant tumours,in 11(22%)patients it was moderately raised and these were mostly endometriomas.Ultrasonography is an inexpensive and readily available investigation. Trans-abdominal ultrasonography showed that majority of the patients (38%) had unilateral complex cyst 5-10 cm and 22%patients had unilateral complex cyst more than 10cm. Their histopathology turned out to be dermoid cysts and endometriomas.Another 4(8%)patients had complex cyst with features in favour of malignancy like multiseptated cyst, papillary projections and solid components. On histopathology 2(4%) were found to be serous cystadenocarcinomas and other two were benign cysts. One(2%) patient had a mass with honey comb appearance and markedly raised B-HCG levels,that patient had choriocarcinoma on histopathology.

Table 2: Adnexal masses- Histopathological findings (n=50)

	Number	Percentage
Unilateral simple cyst > than 10 cm	11	22.0
Unilateral complex cyst 5-10cm	19	38.0
Bilateral complex cyst 5-10cm	4	8.0
Unilateral complex cyst with papillary projections	4	8.0
Honey comb appearance	1	2.0
Unilateral complex cyst > 10 CM	11	22.0

Table 3: Adenaxal masses -Surgical Procedure

	Number	Percentage
Exploratory laprotomy+ cystectomy	33	66.0
Staging laprotomy +TAH+ BSO	13	26.0
Exploratory laprotomy +unilateral salpingoopharectomy	2	4.0
Exploratory laprotomy+bilateral cystectomy	1	2.0
Removal of horn of uterus	1	2.0

Table 4:Histopathological diagnoses

	Number	**Percentage**
Endometriosis	8	16.0
Choriocarcinoma	1	2.0
Dermoid cyst	14	28.0
Serous cyst adenoma	14	28.0
Follicular cyst	1	2.0
Mucinoust cyst adenoma	5	10.0
Rudementory horn of the uterus	1	2.0
Sertoli lydge cell tumour	1	2.0
Luteal cyst	2	4.0
Leomyoma	1	2.0
Serous cyst adenocarcinoma	2	4.0

Conservative surgery was performed in maximum cases, exploratory laparotomy plus cystectomy was done in 66%. In a patient with rudimentary horn of the uterus ,only rudimentary horn was removed ,uterus and overies were conserved. In 68% patients, conservative surgery was performed.Thirteen (26%)patients had staging laparotomy with abdominal hysterectomy and bilateral salpingo oophorectomy (Table 3).All the patients with hysterectomy were in perimenupausal and post menopausal age group. Histopathological analysis of the patients showed that the commonest adnexal masses were epithelial ovarian neoplasm (42%) (Table 4).

Discussion

The early evaluation of pelvic masses is important due to the fear and anxiety by the potential of missing a

malignancy. Proper pre-operative diagnosis of the benign or malignant nature of an adnexal mass is necessary for proper management.[9] Surgery followed by histopathology gives the final diagnosis.[1] About 10% of women have surgery for an ovarian finding in their lifetime.[10] Majority of the patients (86%) were below 50 years similar to a study performed by Philli SS. in their study 78% patients were below the age of 50 years.[11]Benign adnexal masses were 94.6% and malignant were 5.4%.Sharadha et all Narulaet al and Jha and Karki had similar findings in their study.[12-14] Abdominal pain was the most common presenting symptom (64%). A study conducted by Hermans et at also showed the similar results, in their study 60.4% patients presented with pain abdomen[15]

Imaging plays an important role in adnexal masses.[16] Ultrasound is the initial non invasive, sensitive investigation for investigating pelvic masses.[17-21] Transvaginal ultrasonography gives better results for assessing endometrial thickness and ovarian morphology.[22] Final diagnosis of pelvic findings showing benign cysts were well correlated with histopathological findings. Forty seven patients (90%) showed benign characteristics on ultrasonography and these patients found to be non-malignant on histopathology. Only 8% had ultrasound features of malignant tumours and out of them 4%were found to be malignant on histopathology.Only one patient (2%) with honey comb appearance with markedly raised B-HCG and found to be having choriocarcinoma. Ovarian dermoid cyst can be diagnosed by its typical appearance on ultrasonography.[23] So in our study 96% patients had ultrasound correlation with histopatholgy contrary to other studies by Walsh et al they had 79% ultrasound diagnosis correlated with histopathology.[23] Among the major histological classes, the most common type of ovarian neoplasm seen in our study were surface epithelial tumors (42%) similar to other studies done by Tiagi et al (49%) and Ahmed et al had (50%),respectively. [24,25] The second commonest tumour is dermoid cyst as seen in a study by Ahmed et al.[24]

In our study majority of malignant tumours were in postmenopausal women.In present study adnexal masses in postmenopausal women had a higher percentage of malignancy similar to that in other studies.[26,27] Similar findings were seen in another study showing increased incidence of malignancy with increasing age.[28] Also most of the malignant masses are epithelial in origin similar to the study presented by Alessandrino F.and colleagues.[29]

Conclusion

1. In patients with adnexal masses comprehensive preoperative assessment and diagnosis is essential for planning appropriate conservative/ surgical management for the patients and to decrease intra operative complications.
2. Demographic detail, ultrasonography and CA-125 are appropriate preoperative indicators of malignant nature or benign nature of adnexal masses.
3. Timely diagnosis of the adnexal masses is necessary to give timely surgical treatment which will help to preserve the reproductive function and to save the patients from further complications.
4. Most common adnexal tumours are surface epithelial tumours followed by dermoid cysts and malignant tumours are common in postmenopausal group.

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Contribution of Authors: Asma Batool=A,B,D,F; Attiya Begum = A,C,E; Sobia Nawaz=A,BC,E; Mussarat Sultana=C,D,E;Saima Perveen=A,C;Naveed Iqbal= B,C.D

Key for Contribution of Authors : A= Conception/ Study/ Designing /Planning; B= Experimentation/Study conduction;C=Analysis/Interpretation/ Discussion; D= Manuscript writing;E= Critical review;F= Facilitated for reagents/Material/Analysis