Original Research Article

An analytical study of 50 women presenting with an adnexal mass

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ABSTRACT

Background: The aim of this study was to detect and determine the origin of adnexal mass and to narrow down the diagnosis. Also, to determine the reliability of the bimanual pelvic examination in diagnosing adnexal mass and to determine clinical, radiological and histopathological co-relation of adnexal mass. Adnexal mass lesions are fairly common among women (with a prevalence of 0.17% to 5.9% in asymptomatic women and 7.1% to 12% in symptomatic women) of all age group but very common among reproductive age. Differential diagnosis of adnexal mass is difficult and complex. Recognition of the severity of the problem, appropriate and timely evaluation and treatment with good outcome is the goal.
Methods: Prospective, observational study of 50 patients with suspected various adnexal masses were conducted for a period of 1.5yr i.e. from November 2014 to May 2016. All patients underwent pelvic and ultrasonography examination. All patients later underwent surgery. Results were correlated later.
Results: The patient ages ranged from 19 to 58 with a mean age of 31.5. Most common site of origin of adnexal masses is the Ovary (Rt. 38% and Lt. 34%) Most common adnexal masses on histopathological diagnosis are mucinous cyst adenoma (20%), Benign and mature cystic teratoma (16% and 6%) and serous cyst adenoma (10%). About 92% patients with adnexal mass presents with abdominal pain as a chief complaint.
Conclusions: Although bimanual palpation of the adnexal masses may not allow a very specific diagnosis, clinically useful information can usually be obtained and hence it is particularly useful as a first step in assessment of adnexal masses and as an adjunct to morphological assessment of ovarian lesions. Ultrasonography is an important noninvasive investigation and is helpful in diagnosing most of these cases, but the histopathological examination of specimen obtained from laparotomy of adnexal mass is the gold standard for confirming the diagnosis.

Keywords: Adnexal masses, Benign, Malignancy, Ultrasonography

INTRODUCTION

The term adnexa is derived from the pleural form of the Latin word "adnexus" which means "Appendage".[1] The adnexa of the uterus include the ovaries, fallopian tubes and the structures of the broad ligament. Adnexal masses refer to the ovarian masses or cysts; however, paratubal cysts, hydrosalpinx, and other non-ovarian masses are also included.[2] An adnexal mass may be found in females of all ages with significantly variable prevalence.

Adnexal mass is common among women of all age groups but more common among women of reproductive age. Adnexal mass may be of gynaecological or nongynaecological origin. An adnexal mass may be benign or malignant. It is the risk of malignancy that propels us for early, accurate and prompt diagnosis to lessen the morbidity and mortality.

Many adnexal masses are asymptomatic like small simple cyst which resolves spontaneously or by conservative treatment, on the other hand the asymptomatic masses

can also be an early ovarian cancer which requires early immediate attention. Therefore a thorough clinical pelvic examination with a high index of suspicion should be done. Pelvic masses those are overlooked on physical examination will be identified by Ultrasonography examination. Sonography usually provides clinically important parameters for the evaluation of pelvic mass. Pelvic sonography can confirm the presence or absence of a suspected pelvic mass.[2] Increased use of TVS screening for ovarian carcinoma may increase the chance for early diagnosis and decrease the mortality of the disease. Thus imaging by ultrasonography helps to locate its origin [ovarian, uterine or bowel] the mass size, consistency, internal architecture by scoring system which will grade the malignant tumour. The diagnosis of ovarian tumors is based on clinical examination, sonography and measurements of CA-125 collectively known as triple diagnostic method.[3] Subjective evaluation by Doppler ultrasound findings and preoperative serum levels of CA-125 both can discriminate benign from malignant adnexal masses. Ovarian cancer is the commonest cause of death from gynaecologic malignancy and is fifth commonest cause of cancer deaths in women.[4] This study was conducted with a view to find out the diagnostic value of combined approach with pelvic examination and pelvic sonography and its correlation with laparotomy and histological diagnosis.

There are various reports of the role of computerized tomography (CT), magnetic resonance imaging (MRI) and positron emission tomography (PET) in diagnosis and management of adnexal masses, but they may not be feasible in every patient in our set up.

METHODS

It is a prospective, observational study conducted for 1.5 years from November 2014 to March 2016. The total number of 50 subjects admitted in Gynecology ward of Tertiary Care Hospital, Ahmedabad was picked up for the study.

Female patients of reproductive age group presenting with symptoms like lower abdominal pain, menstrual irregularity, palpable mass, etc. and Asymptomatic patients where adnexal mass detected at time of routine pelvic examination or at the time of ultrasonography [transabdominal and transvaginal sonography] done for other diagnosis were included in this study

The following cases were excluded from the study

1. Women on ovulation induction drugs.

2. Masses arising from urinary tract and gastrointestinal tract.

3. Suspected Malignant cases, as those patients were referred to the regional cancer speciality institute for better management.

Details of the study protocol were explained to the subjects.

Informed consent was obtained.

A detailed menstrual, obstetric and medical history of each patient was taken.

General, physical, systemic, pelvic examination was done. Clinical and Transabdominal and Transvaginal ultrasonographic evaluation of adnexal masses was performed. All the cases were subjected to transabdominal ultrasonography with full bladder technique with 3.5MHz probe and then transvaginal sonography with empty bladder technique with 6.5MHz.

All necessary laboratory investigations were performed and after thorough evaluation, all patients were subjected for surgery.

RESULTS

Table 1: Age wise incidence of adnexal masses.

Age (Yrs)	No. of patients	Percentage
16-25	18	36%
26-35	16	32%
36-45	13	26%
46-55	2	4%
56-65	1	2%
Total	50	100%

The patient ages ranged from 19 to 58 with a mean age of 31.5 years. In the present study the majority of cases were below 45 years. Only 3 patients were above 45 years.

Table 2: USG site of adnexal masses.

USG Site	No. of patients	Percentage
Lt. ovary	17	34%
Rt. ovary	19	38%
B/L ovaries	3	6%
Lt. fallopian tube	4	8%
Rt. fallopian tube	4	8%
Uterus	3	6%
Total	50	100%

Most common site of origin of adnexal masses is Rt. ovary (38%) and Lt. ovary (34%) (Table 2).

Most common adnexal masses on histopathological diagnosis are mucinous cyst adenoma (20%), Benign and mature cystic teratoma (16% and 6%) and serous cyst adenoma (10%) (Table 3).

About 92% patients with adnexal mass presents with abdominal pain as a chief complaint (Table 4).

Table 3: Histopathological diagnosis of adnexal masses.

HP Diagnosis	No. of patients	Percentage
Serous cyst adenoma	5	10%
Mucinous cyst adenoma	10	20%
Benign cystic teratoma	8	16%
Mature cystic teratoma	3	6%
Chronic ectopic pregnancy	6	12%
Functional cyst	4	8%
Corpus Luteal cyst	2	4%
Endometrial cyst	4	8%
Hydrosalphinx	4	8%
Parovarian cyst	1	2%
Leiomyoma	2	4%
Uterine rudimentary horn	1	2%
Total	50	100%

Table 4: Adnexal masses presenting with pain.

Pain	No. of patients	Percentage
Present	46	92%
Absent	4	8%
Total	50	100%

Table 5: Adnexal masses presenting with menstrual irregularity.

Menstrual irregularity	No. of patients	Percentage
Present	25	50%
Absent	25	50%
Total	50	100%

About 50% patients with adnexal mass presents with menstrual irregularity as a chief complaint.

DISCUSSION

Evaluation of the adnexa is an integral part of the gynaecologic examination. Because early adnexal disease rarely is symptomatic, the pelvic examination serves as a primary screening method for asymptomatic adnexal disease. An accurate adnexal assessment is even more important in postmenopausal women because of higher incidence of ovarian cancer, often with no early signs and symptoms.[3]

In a study by Borgfeldt et al, random sample of 335 asymptomatic women – aged between 25 to 40 years was taken. In this study, the prevalence of an adnexal lesion on ultrasound examination was found to be 7.8 % and in comparison, the prevalence of ovarian cysts was 6.6 %. In our study 78% of adnexal lesions found on sonography, were ovarian cysts.[4]

Despite its ubiquitous use, some authors have proposed that pelvic examination is inadequate for identifying adnexal masses. Physicians in primary care specialties have concerns about pelvic examination because they regard their training in it as inadequate, avoid portions of it, or liberally use ancillary diagnostic procedures. We found that sonographic scoring of the ovarian lesion appears to have high sensitivity (89-100%) and specificity (73-83%), moderate positive predictive value (37-46%) and excellent negative predictive value (96-100%).[5]

In our study a total of 50 patients were diagnosed to have adnexal masses. The patient ages ranged from 19 to 58 years with a mean age of 31.5 years. In the present study majority of the cases were below 45 years. Only 3 patients were above 45 years indicating a higher incidence of masses in the premenopausal patients compared to post-menopausal patients. A study by Khan S has shown an prevalence of ovarian masses to be 7.8% in premenopausal patients compared to 2.5% prevalence in the postmenopausal women which is in support of our study.[6] 46 patients reported with symptoms of pain whereas 4 patients did not complain of pain. Pain being a common symptom in the premenopausal patients compared to post-menopausal patients.

Our study shows a higher incidence of masses in either left or right ovary compared to bilateral origin. There was a higher prevalence of masses in the right ovary compared to left ovary. A prospective cohort study done by Louis A on 140 women showed a higher incidence of adnexal masses in the left ovary as compared to the right ovary (49 vs 33%) which is contrary to our study. The clinical pelvic examination provides important information regarding the status of the Female genital tract.[7] The need for bimanual pelvic examination as part of routine gynaecologic care is now being seriously criticized.

According to Russell, pelvic examination and its possible limitations, such as examiner experience, patient obesity, patient anxiety, or symptomatology, have never been assessed systematically.[8] Roman et al compared pelvic examination to tumour marker levels and ultrasound for predicting pelvic cancer in women with adnexal masses. Sensitivity and positive predictive value of pelvic examination were only 51% and 43.8%, respectively.[9] In a population screening study by Andolf et al, only 23% of persistent adnexal masses found by ultrasound were detected by pelvic examination and none of the borderline or malignant ovarian lesions were found by pelvic examination.[10]

An important goal of the analysis of ovarian and adnexal masses is an attempt to identify non-neoplastic entities, such as functional cysts, tubal and inflammatory diseases, or endometriosis. These non-neoplastic entities are usually smaller in size and may display classic ultrasound appearances that are referred to as pathognomonic. However, each of these entities can have appearances that

mimic neoplastic processes as well. Preoperative classification of an ovarian mass as benign or malignant is imperative for appropriate patient triage, referral, and management. Although it may not determine whether or not to perform surgery, malignancy risk prediction may assist in decisions regarding surgical approach (laparoscopy or laparotomy) and the degree of involvement by the gynaecologic oncologists. Once surgical removal is indicated, the question of which surgical approach to use –laparoscopy versus laparotomy – has to be decided.

It is recommended that a 'risk of malignancy index' should be used to select the women for laparoscopic surgery, and it must be done by a suitably qualified surgeon. If an unsuspected ovarian malignancy is detected at the time of diagnostic laparoscopy, staging and debulking by laparotomy should be undertaken without delay and is ideally performed by a gynaecologic oncologist.

CONCLUSION

We can conclude from our discussion that ultrasonography is definitely an important non-invasive investigation and is helpful in diagnosing most cases of functional ovarian cysts, benign ovarian neoplasm and ovarian malignancy; but the histopathological examination of specimen obtained from laparotomy/laparoscopy of adnexal mass is the gold standard for confirming the diagnosis. Although bimanual palpation of the adnexal masses may not allow a very specific diagnosis, clinically useful information can usually be obtained and hence it is particularly useful as a first step in assessment of adnexal masses and as an adjunct to morphological assessment of ovarian lesions. However no single diagnostic aid can be used to determine the pathological adnexal masses. Hence a multifaceted diagnostic approach should be used for a definite diagnosis and management of adnexal mass.

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