Evaluation of Adnexal Mass Diagnosed in Women Presenting in A Tertiary Care OPD

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Abstract

Introduction: An adnexal mass is a common gynecological problem, diagnosis of which is based on clinical presentation, various radiological imaging and biomarkers. To evaluate adnexal masses in context of clinical, radiological and pathological diagnosis.

Methods: A total of 100 consecutive patients presenting in our hospital with adnexal mass were selected for the study matching the inclusion and the exclusion criteria. A detailed history of each case was recorded with special attention to the presenting complain and a detailed examination was performed. Cases were investigated by radioimaging and serum biomarkers. Various adnexal masses were studied with respect to the manifestations and radiological and biochemical findings.

Results: Most common presenting complaint was pain (68%) followed by no complains (15%) and abdominal distention (7%). Other symptoms include lump in abdomen, nausea and vomiting. Most of the adnexal pathologies were unilateral (83%) on presentation with 47% involving left side. Most common pathology identified in the left adnexa was ovarian cyst, followed by ectopic pregnancy. Most common benign pathology diagnosed as per sonography was ovarian cyst (40%).

Conclusions: Ultrasonography is an important non-invasive investigation helpful in diagnosing most cases of adnexal masses. Bimanual palpation can be useful as a first step in assessment of adnexal masses. 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.

Keywords: Adnexa; Adnexal mass; Approach to Adnexal mass; Evaluation of adnexal mass.

Introduction

Adnexal masses are a significant condition encountered in association with gynecological presentations. Acute catastrophic presentation or incidental finding at the time of pelvic examination or sonographic evaluation is seen. All age groups of women can present with an adnexal pathology, but more so are during the reproductive phase of women.

Differential diagnosis of adnexal mass is complex and includes functional cysts, benign and malignant ovarian tumors, paraovarian cysts, tubo-ovarian abscesses, hydrosalpinx, ectopic pregnancies, tubal malignancy, broad ligament fibroid, fimbrial cysts, sigmoid colon or colon distended with gasses or feces, pelvic kidney, and

pregnancy in bicornuate uterus. The adnexal mass maybe benign or malingnant and a fair clinical evaluation is necessary and a course of various risk assessment approaches can be made for the same.

Imaging with ultrasound or MRI has enhanced the clinical evaluation in adnexal masses. Some biological markers such as the CA 125, beta-HCG and others are helpful in better differentiating an obscure presentation. The importance of clinical evaluation eventually is restoration of fertility and to rule out malignancy and consequently restoration of life. Some acute situations such as an extrauterine pregnancy or bleeding corpus luteum cyst of ruptured ectopic may need confirmation or completion of treatment with endoscopy.

This tertiary care centre caters to the lower middle class, mixed age population of the western part of the country. Many gynecological conditions have been observed to be associated with adnexal pathology. The study was therefore designed to analyze 100 gynecological condition associated with adnexal masses. The age group of presentation, the clinical presentation, the diagnostic strategy adopted and the therapy offered were studied.

Materials and Methods

Study Area

Department of Obstetrics and Gynecology in a tertiary care hospital, Bharati hospital at Bharati Vidyapeeth University, Pune.

Study Population

All patients attending the Gynecology OPD with symptoms suggestive of adnexal mass were taken for the study.

Study Design

A prospective, observational, clinical study

Sample Size Calculation

A total of 100 consecutive patients presenting in our hospital with adnexal mass were selected for the study after taking informed consent.

Study Duration

Dec 2016–Nov 2018

Inclusion Criteria

1. Female patients (prepubertal to post-menopausal) of all age-group presenting with symptoms like pain and palpable mass.

2. Also asymptomatic patients where adnexal mass detected at the time of routine pelvic examination or at the time of ultrasonography [transabdominal and transvaginalsonography] done for other diagnosis.

Exclusion Criteria

Malignancy.

Methodology

A detailed history of each case was recorded with reference to age, parity, symptoms, marital status, menstrual history, obstetric history, family history and history of present and past, medical and surgical illness. A special attention was given to those patients presenting with symptoms like abdominal pain, abdominal mass and pelvic pain. Detailed general, systemic, per abdomen, per speculum and per vaginal, per rectal examination was performed.

In all cases ultrasonography was performed and CA 125, CEA, beta-HCG estimation was done (as indicated). Depending upon the findings, it was decided, who will be the subjected for diagnostic/therapeutic laparoscopy or laparotomy and results were correlated and projected in the study.

Statistical Analysis

The quantitative data was represented as their mean ± SD. Categorical and nominal data was expressed in percentage. All analysis was carried out by using SPSS software version 21.

Results

Mean age of the study subjects was 36.6 years with most of them were between 21 and 40 years of age (62%). Irregular menstrual cycle was observed in 24% cases while more than half had regular menstrual cycles. Irregularity of the cycles was observed mostly due to an ovulatory cycles as in cases of PCOS.

Most common presenting complaint was pain (68%) followed by no complains (15%) and abdominal distention (7%). Other symptoms include lump in abdomen, nausea and vomiting. Most of the adnexal pathologies were unilateral (83%) on presentation with 47% involving left side and 36% were on right side. Bilateral involvement was seen in 17% cases.

Most common pathology identified in the left adnexa was ovarian cyst, followed by ectopic pregnancy. Most common benign pathology diagnosed as per sonography was ovarian cyst (40%) followed by ectopic pregnancy (15%), PCOS (14%) T-O mass (9%), hydrosalpinx (5%) and benign ovarian cyst torsion (5%). Malignant ovarian tumors were observed in 2% cases. Additional findings observed in the study were presence of adhesions (29%), endometriosis (16%) and fibroid (18%).

Most common benign lesion was serous cystadenoma (12%) followed by ectopic pregnancy (10%) while the most common malignant lesion was serous cyst adenocarcinoma (1%). Malignant lesions had high levels of CA 125 (i.e. more than 200 IU) as compared to other benign conditions all of which had CA 125 less than 60 IU. Hence, it is observed that CA 125 helps in differentiating malignant from benign lesions.

Discussion

The term adnexa is derived from the pleural form of the Latin word *adnexus* which means "Appendage". 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.[1]

An adnexal mass may be found in females of all ages with significantly variable prevalence. In a random sample of 335 asymptomatic women—aged between 25 and 40 years—the prevalence of an adnexal lesion on ultrasound examination has been 7.8%. In comparison, the prevalence of ovarian cysts is 6.6 percent.[2]

Evaluation of the adnexa is an integral part of the gynecologic 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]

The risk of an ovarian tumor being malignant is estimated to be 7–13% in premenopausal and 8–45% in postmenopausal women.[4] The risk of ovarian malignancy in women undergoing laparoscopy for preoperatively benign appearing ovarian tumors ranges from 0.1 to 4.2% and increases in elderly patients.[5]

The present cross sectional study was conducted with the aim of evaluating adnexal masses in context of clinical, radiological and pathological diagnosis. A total of 100 patients presenting in our hospital with adnexal mass were selected for the study after taking informed consent. A detailed history of each case was recorded with reference to age, parity, symptoms, marital status, menstrual history, obstetric history, family history and history of present and past, medical and surgical illness. In all cases ultrasonography was performed and other investigations were done as indicated. Depending upon the findings, it was decided, who will be the subjected for diagnostic/therapeutic laparoscopy or laparotomy.

Demography

In our study a total of 100 patients were diagnosed to have adnexal masses. The patient ages ranged from 18 to 65 with a mean of 36.6 years. In the present study the majority of cases were between 21 and 40 years of age (62%) and one third (34%) of the cases were between 41 and 60 years, indicating a higher incidence of masses in the premenopausal patients compared to postmenopausal patients.

Douglas L Brown et al.[2] studied 211 ovarian masses in patients' age between 16 and 78 years with the mean age of 39. Sassone et al.[6] studied 144 ovarian masses in patients' age between 20 and 85 years with mean age was 41.6 years. Dhwani et al.[3] studied 100 ovarian masses in patients' age between 0 and 80 years with mean age was 33.9. A study by Sadia Hameed et al. has shown a 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.[4]

Symptoms

Most common presenting complaint was pain (68%) followed by no complaint (15%) and abdominal distention (7%). Other symptoms include lump in abdomen and nausea and vomiting. In the study conducted by Barbara[5] et al., on frequency of symptom of ovarian carcinoma, it was concluded that 67% of the patients presented with pain. In the study conducted by Dhwani et al.[3] abdominal pain (70%) was the most common complaint. Abdominal lump had been commonest symptom with malignant ovarian tumor.

Laterality

Most of the adnexal pathologies were unilateral (83%) on presentation with 47% involving left side

and 36% were on right side. Bilateral involvement was seen in 17% cases.

A prospective cohort study done by Mitchell DG et al.,[7] a higher incidence of adnexal masses in the left ovary as compared to the right ovary (49 vs 33%) which is in accordance to our study. Singh[8] et al. showed no correlation between tumor site and malignancy. Similar results were also seen in the study of Avsar et al.[9] with 93.9% of tumors were unilateral while Dasgupta et al.[10] who noted 87% tumors to be unilateral.

Ultrasonography and Type of Pathology

In present study, most common benign pathology diagnosed as per sonography was ovarian cyst (40%) followed by ectopic pregnancy (15%), PCOS (14%) T-O mass (9%), hydrosalpinx (5%) and benign ovarian cyst torsion (5%). Malignant ovarian tumors were observed in 2% cases.

Bhagde AD et al.[11] observed most common adnexal masses on histopathological diagnosis as mucinous cyst adenoma (20%), Benign and mature cystic teratoma (16% and 6%) and serous cyst adenoma (10%).

In the study conducted by Siddhi[12] et al., it was seen that thin-walled cysts were reliable indicators of benignity. However, Singh[8] et al. in their study found that wall thickness did not relate well with malignancy. Dasgupta et al.[10] in a similar study noted that only 20% of benign tumors had internal septations while 78.15% of malignant variety had septa. Avsar et al.[9] also noted association of multi-locularity with malignancy. The results of our study were consistent with the study of Avsar et al.[9] who concluded that the presence of solid component was the second most significant parameter after CA 125 level for an accurate diagnosis of ovarian malignancy. Similar findings were also observed by Sassone et al. who found significant association of hyperechogenicity with malignant lesions.[6] Singh et al.[8] also confirmed that presence of hyperechoic lesion as a significant parameter for malignancy.

Conclusion

We can conclude from our study 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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