

Correlation between Clinical, Operative and Histopathological Findings of Adnexal Masses – A Study of 50 Cases

Rahman D¹, Jahan AA², Akter A³, Parvin M T⁴, Mile J A⁵, Rouf S⁶.

Abstract

Background: Adnexal mass has multidimensional diagnosis that may be related to fallopian tube, ovary etc. These masses may be benign, intermediate and malignant. The ability of clinical approach to diagnose the exact pathology of adnexal mass is still a question. **Objective:** To explore the correlation of clinical findings with operative and histopathological findings of adnexal masses. **Method and Materials:** A prospective and observational study was conducted in a tertiary hospital during the period of July 2015 to December 2015. 69 patients were selected according to purposive sampling and further scrutinized according to selection criteria, which were clinically diagnosed as adnexal mass. All the 50 patients undergone surgical intervention followed by histopathology. All the patients' data were recorded through a semi-structured data collection sheet. **Result:** Study shows clinical and post-operative (per-operative + histopathology) findings of adnexal masses were 54% vs 50% for ovarian endometrioma, 24% vs 22% for benign ovarian tumor and 22% vs 26% for other adnexal masses respectively. **Conclusion:** Clinical findings with the help of sonography can guide effectively to the diagnosis of adnexal masses. However, per-operative and histopathological findings are required for the confirmation.

Keywords: Adnexal Mass.

Introduction: An adnexal mass is an abnormal growth that develops near the uterus, most commonly arising from the ovaries, fallopian tubes, or connective tissues.¹ Adnexal masses represent a spectrum of conditions from gynecologic and non-gynecologic sources. They may be benign or malignant. The initial detection and evaluation of an adnexal mass requires a high index of suspicion, a thorough history and physical examination, and careful attention to subtle historical clues. Timely, appropriate laboratory and radiographic studies are required.² The differential diagnosis of an adnexal mass includes benign and malignant gynecologic and non-gynecologic etiologies. The goal of evaluation is to differentiate between benign and more serious conditions, such as ovarian cancer. Ovarian cancer is the leading cause of death from gynecologic malignancy. It is the fifth leading cause of cancer death in women in the United

States, accounting for 15,280 deaths in 2007.^{3,4} Adnexal masses are characterized on ultrasonography as cystic, solid, or complex. According to an American College of Radiology guideline, simple cysts in premenopausal women are considered benign.⁵ Complex masses may rarely be malignant in premenopausal women.³ These masses are most likely to be hemorrhagic cysts or endometriomas; however, tubo-ovarian abscess, ectopic pregnancy and ovarian torsion can also present as a complex mass. Solid masses are most commonly pedunculated fibroids, but can be benign ovarian tumors, fibromas, thecomas, malignant ovarian tumors, or an ovarian torsion. The most common benign ovarian neoplasm is the cystic teratoma. As adnexal masses present a diagnostic dilemma, the differential diagnosis is extensive and most masses are benign. However, without histopathologic tissue diagnosis a definitive diagnosis

1. **Dr. Dilara Rahman**, Assistant Professor, Department of Obs & Gynae Central Medical College and Hospital, Cumilla.
2. **Dr. Afia Akhter Jahan**, Consultant, Department of Obs & Gynae, Social Marketing Company, Dhaka.
3. **Dr. Asma Akter**, Registrar, Department of Obs & Gynae, Green Life Medical College and Hospital, Dhaka.
4. **Dr. Mossamat Tahmina Parvin**, Assistant Professor, Department of Obs & Gynae, Cumilla Medical College, Cumilla.
5. **Dr. Jasrin Akter Mile**, Assistant Professor, Department of Obs & Gynae, Central Medical College, Cumilla.
6. **Prof. Dr. Salma Rouf**, Ex-Departmental Head, Obs & Gynae, Dhaka Medical College and Hospital, Dhaka.

Correspondence : Dr. Dilara Rahman, Mobile: 01676480154, Email: rahmandilara65@gmail.com.

is generally precluded. Physician must evaluate the likelihood of concerning pathologic process using clinical and radiologic information and balanced the risk of surgical intervention for a benign vs malignant process.

The aim of this study is to analyze and compare the clinical per-operative and histological findings in patient with adnexal masses in order to identify factors which could pre-operatively imply to detect the nature of adnexal masses whether benign or malignant so that the patient gets appropriate treatment for the condition.

Method and Materials:

This is a prospective and observational study of 6 months from July 2015 to December 2015 done at the department of Obstetrics and gynecology in Dhaka Medical College Hospital. Purposive sampling was done. Sample size was 50. To conduct the study, ethical clearance and permission were taken from concerned authorities with due procedures. Data was collected using a structured questionnaire containing all the variables, including history, physical examination, radiological, operative and histopathological findings.

Inclusion criteria

- All patient with clinically suspected adnexal masses

Exclusion criteria

- Diagnosed case of malignant ovarian tumor
- Patients with sub serous uterine fibroid
- Chronic ectopic pregnancy

After collection, data editing and clearing was done manually and prepared for data entry and analysis by SPSS (Statistical package for social science) using chi-square test.

Results

This study was a cross-sectional observational study. It was conducted into department of Obstetrics and Gynecology of Dhaka Medical College Hospital. The sample size was 50. It was done through 6 months ranging from July 2015 to December 2015. The main aim of this study was to correlate the clinical, surgical and histopathological findings of adnexal mass.

Table 1: Age Distribution (n=50)

Age Group	Frequency (%)
18-30 years	29 (58%)
31-40 years	12 (26%)
41-50 years	2 (4%)
51-60 years	5 (10%)
> 60 years	1 (2%)
Total	50 (100%)
Mean age (in years)	26.59 ± 11.16
Age range (in years)	18-69

Table 1 shows that maximum adnexal mass were diagnosed in age group 18-30 years (58%) followed by 31-40 years (26%). So, it can be assumed from this table that maximum patient (84%) of adnexal mass in our study were in reproductive age group (18-40 years). The mean age was 26.59 ± 11.16 years (age range: 18-69 years).

Figure 1: Distribution of side of unilateral adnexal mass (N=35)

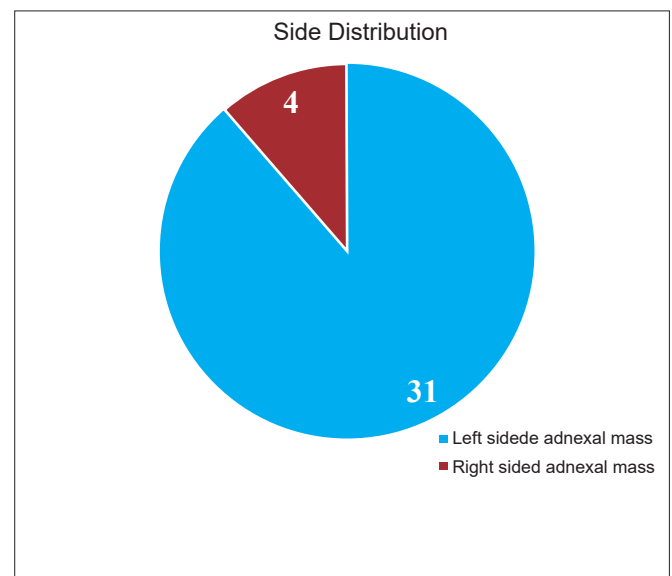


Figure 1 shows that out of 35 unilateral adnexal mass, 31 (88.57%) were left sided adnexal mass and rest 4 (11.42%) were right sided adnexal mass.

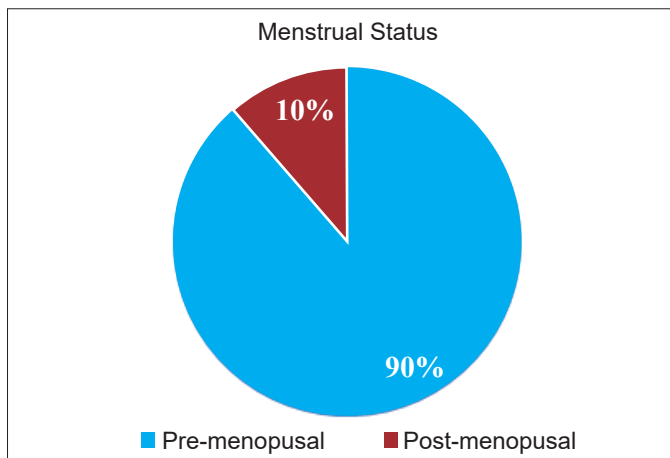
Figure II: Distribution of patients with menstrual status (n=50)

Figure 2 shows that 90% of the patients among 50 subjects were pre-menopausal whereas, rests 10% were post-menopausal women.

Table 2: Distribution of clinical features (n=50)

Clinical features	Frequency (%)
Abdominal lump	50 (100%)
Abnormal uterine bleeding	25 (50%)
Abdominal discomfort/pain	16 (32%)
Nausea/vomiting	7 (14%)

Table 2 shows that maximum patients presented with abdominal lump (100%) followed by abdominal uterine bleeding (50%) among 50 patients. All the patients were diagnosed clinically as adnexal mass.

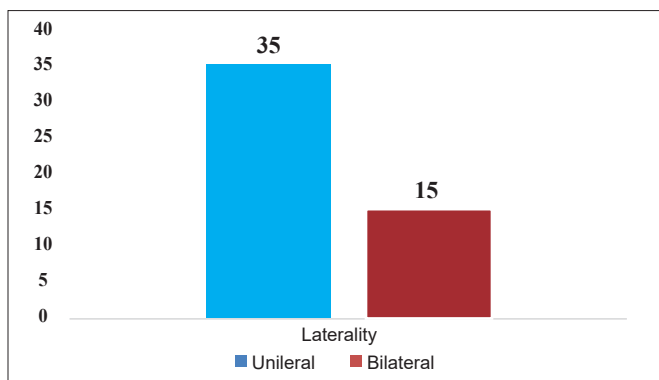
Figure IV: Distribution of laterality of adnexal mass (n=50)

Figure IV shows that, 35 (70%) patients presented with unilateral adnexal mass whereas 15 (30%) presented with bilateral adnexal mass.

Table-III: Distribution of clinical/ pre-operative diagnosis (n=50)

Clinical/ pre-operative diagnosis	Frequency (%)
Endometriosis	27 (54%)
Benign ovarian tumor	12 (24%)
Pelvic pain with adnexal mass	9 (18%)
Chronic PID	2 (4%)
Total	50 (100%)

Table III shows that 27 (54%) patients had clinical diagnosis of endometrioma and 12 (24%) had clinical suspicion of benign ovarian tumor. Clinical or pre-operative findings were based on history, physical examination and sonological study.

Table-IV: Distribution of operative findings (n=50)

Surgical diagnosis	Frequency (%)
Endometriosis (n-25)	25 (50%)
Benign ovarian tumor (n-11)	11 (22%)
Pelvic pain with adnexal mass (n-11)	5 (10%)
Corpus luteum cyst	2 (4%)
Parovarian cyst	2 (4%)
Paratubal cyst	2 (4%)
Hydrosalpinx	2 (4%)
Chronic PID	2 (4%)
Malignant ovarian tumor	1 (2%)
Total	50 (100%)

Table IV shows the surgical findings of adnexal mass are somewhat different than that of clinical findings.

Table V: Distribution of correlation among clinical diagnosis (n=50)

Per-operative and histopathological

	Clinical diagnosis (n=50)	Per-operative diagnosis (n=50)	Histopathological diagnosis (n=50)
Endometriotic cyst	27 (54%)	25 (50%)	25 (50%)
Benign ovarian tumor	12 (24%)	11 (22%)	11 (22%)
Pelvic pain with adnexal mass	9 (18%)	11 (22%)	11 (22%)
Chronic PID	2 (4%)	2 (4%)	2 (4%)
Malignant tumor	0 (0%)	1 (2%)	1 (2%)

Table V shows that, in maximum cases clinical, surgical and pathological diagnosis are almost similar. In this study, in case of endometriosis 2 (4%) were wrongly diagnosed clinically which were later diagnosed as pelvic pain with ovarian cyst. 1 (2%) benign ovarian tumor was confirmed as malignant tumor surgically and histologically.

Discussion

In this study peak age of adnexal pathology was between 3rd and 4th decade. Maximum number of patients (58%) were between 18-30 years age group and 26% were between the age group of 31-40. maximum patients (84%) in our study were in reproductive age group findings of this studies are consistent with the findings of similar studies at home and abroad. Studies of Afrose T⁶, M Mathew⁷ showed mean age of adnexal pathology 29.1+ 9.5 years.

Pelvic endometriosis was the commonest pre-operative diagnosis in this study which was up to 54%. This finding is similar to the Fuldeore Mj's study⁸. Most of the masses in this group were endometrioma, 27/50 in clinical diagnosis and 25/50 in surgical and pathological diagnosis. 2 (4%) cases were clinically diagnosed as endometrioma but histopathological confirmed as corpus luteum cyst.

Benign ovarian tumor is the second most common mass found in this study; 12/50 in clinical diagnosis and 11/50 in surgical and pathological diagnosis. One clinically diagnosed benign ovarian tumor was confirmed as malignant ovarian tumor by histopathological.

In this study, only 41 out of 50 cases were ovarian in origin which is approximately 82% of adnexal masses. Others were Para ovarian cyst, hydrosalpinx and tubo-ovarian mass in PID which is approximately 18% this finding is similar to the Kier's study⁹.

In this study 5 (10%) were postmenopausal cases and all were ovarian in origin. Four of 5 cases were dermoid cyst, 1 case was ovarian carcinoma. It might be because of small number of cases were evaluated.

In this study, out of 50 (100%) adnexal masses 35 (70%) were found as unilateral mass. Almost all clinical diagnosis was accurate as they are confirmed by histopathologically. Only two clinical diagnoses were not accurate. One of them clinically diagnosed as endometrioma but histologically confirmed as

corpus luteal cyst. Another one was diagnosed as benign ovarian tumor but later on diagnosed as malignant ovarian tumor histologically.

Conclusion:

Women in her reproductive and in postmenopausal state invariably came to the gynecologist with adnexal masses. These masses may be cystic or complex, sometimes unilateral or bilateral. With proper history, physical examination, radiological and per operative findings most of the time diagnosis can be confirmed but still histological findings is mandatory for the confirmed diagnosis. But sometimes for a few cases we see the difference between clinical and histological diagnosis as we see in our study. The difference between clinical, per operative and histopathological findings is negligible in this study but a long-term study with large size sample will provide more specific result.

Limitations of this study

The sample size and study period was relatively small. Very few studies like that, so exact literature was not very much available. Here the same group of people underwent the three procedures, so it was very much time consuming to perform.

Conflict of interest:

The authors hereby declare that no conflict of interest exist on behalf of the authors in conducting this study. Furthermore, the findings of this study do not constitute any conflict of interest for the authors.

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