

A Clinicopathological Study of Tubo Ovarian Masses at SRMS, IMS, Bareilly, U.P.

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Abstract

Background: In gynaecological practise, an adnexal mass is a frequent clinical manifestation. The differential diagnosis of an adnexal mass presents a diagnostic challenge for the treating gynaecologist since it can range from a life-threatening emergency like an ectopic pregnancy to a malignant lesion with a high mortality rate to investigate the histopathology of adnexal masses.

Material and Methods: The study comprised 110 cases of adnexal masses that underwent surgical surgery over the course of a year. A specimen that was obtained by the pathology department was examined histopathologically.

Results: 110 instances altogether made up the study group. In our analysis, ovarian pathology accounted for 79% of adnexal mass cases, tubal pathology accounted for 15.45%, and combination pathology, or endometriosis and tubovarian abscess, accounted for 5.45%. 9.1% of ovarian lesions were non-neoplastic cysts like corpus luteal cysts or endometriosis, while surface epithelial lesions were present in 50% of cases. Out of a total of 110 cases, 77 were of ovarian origin, with 57 (74%) being benign, 05 (6.5%) borderline, and 15 (19.5%) being malignant.

Conclusion: Finally, an adnexal mass frequently presents a diagnostic challenge to the treating doctor. Patients in the reproductive age range who experience adnexal mass frequently have an ectopic pregnancy. The most frequent benign ovarian lesion is a serous cyst adenoma, while the most frequent malignant ovarian lesion is a serous cyst adenocarcinoma. Ovarian neoplasms are another important factor in the development of adnexal masses.

Keywords: Adnexal mass, Ectopic pregnancy, Ovarian lesion, Cyst

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Introduction

In gynaecological practise, an adnexal mass (mass emerging from ovary, fallopian tube, or the surrounding connective tissue) is a frequent clinical presentation. Due to the ovary's high tendency for neoplasia, the term

"adnexal mass" is most frequently used to describe masses that arise from the ovary.

The differential diagnosis of an adnexal mass is difficult to make because it can range from a functioning cyst to ovarian

cancer to life-threatening ectopic pregnancies [1].

30% of all malignancies of the female genital tract are ovarian cancer, which continues to be the most common disease in women [2]. With an age-standardized incidence rate of 6.6/100,000 and a mortality rate of 4.0/100,000, ovarian cancer is the sixth most frequent cancer worldwide [3,4].

Ovarian cancer is now the third most frequent cancer in women in India, with a frequency that ranges from 5.4 to 8 cases per 100,000 people [5]. Since ovarian malignancies have very few and nonspecific symptoms they are mostly diagnosed at a very late stage leading to a very poor prognosis in most cases.

The fact that the disease was discovered at a late stage is largely to blame for the about 45% overall 5-year survival rate. The importance of early identification of ovarian cancer cannot be overstated because it would improve prognosis. The most accurate method for diagnosing ovarian cancer is histopathology.

Material and Methods

In Bareilly, Uttar Pradesh, at the Shri Ram Murti Smarak Institute of Medical Sciences, the study was conducted. The research involved adnexal masses that were operated on in the Department of Obstetrics and Gynaecology also in Department of Surgery from September 2021 to August 2022, with specimens sent to the pathology department at SRMS, IMS, Bareilly, U.P. for histopathological analysis.

All patients provided written consent, and information was recorded on a pre-designed proforma. The proforma included information on the whole clinical history, ultrasonography results, and CA 125 levels (if available).

The study comprised 110 instances of adnexal masses in total. Specimens received by the pathology department were labelled; the tissue was immediately preserved in 10% formalin after a gross examination. The tissue was sectioned and prepared for microscopy after being fixed for 24 to 48 hours. Hematoxylin and eosin stain was used to colour the slides.

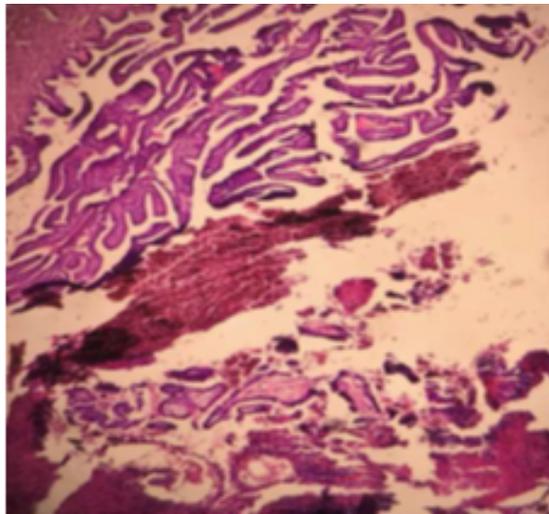


Figure 1: M/E 200 X view showing intra luminal Chorionic villi

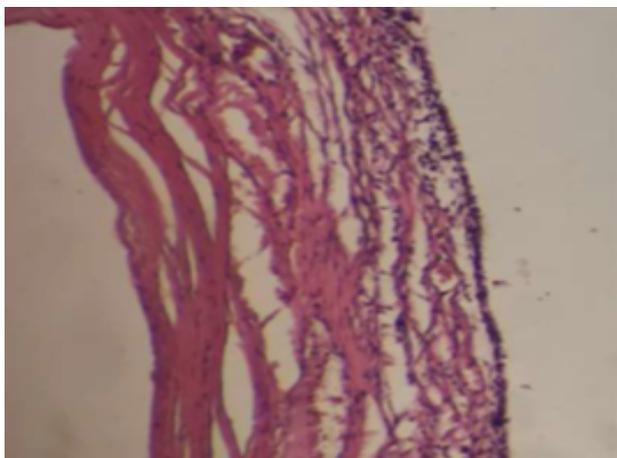


Figure 2: M/E 400 x view Single layer of bland looking Epithelial cells lining the cyst wall of Serous cyst adenoma

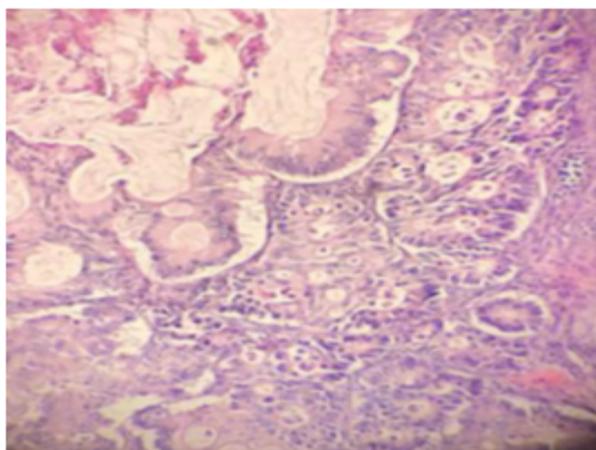


Figure 3: 400X view Complex branching papillary architecture with nuclear atypia and high mitotic activity

Results

110 instances altogether made up the study group. Most of the patients in our study were between the ages of 21 and 40, which is the reproductive age range; they accounted for 58.18% of the instances of adnexal masses. In our study, the oldest patient was 75 years old and the youngest patient was 15 years old. (Table 1).

Table 1: Age wise distribution of patients in the study group

| Age in years | No. of patients | Percentage |
|--------------|-----------------|------------|
| <20 | 12 | 10.90% |
| 21-40 | 64 | 58.18% |
| 41-60 | 27 | 24.54% |
| >60 | 07 | 6.38% |

The 110 patients who participated in our study were 10 single women and 100 married women. Mature cystic teratomas (60%) and benign serous cyst adenomas (30%) were the two most frequent lesions in single females.

In the current study, we discovered that 79% of adnexal masses were caused by ovarian pathology, 15.45% by tubal lesions, mostly brought on by ectopic pregnancy, and only 5.45% by mixed pathology, or tubovarian abscess and endometriosis. (Table 2)

Table 2: Site of lesion in adnexal mass

| Tubal lesion | Ovarian origin | Combined pathology |
|--------------|----------------|--------------------|
| 17(15.45%) | 87(79.1%) | 06(5.45%) |

According to our research, ectopic pregnancy or benignancy were the most frequent causes of adnexal masses up until the second decade of life. The majority of inflammatory lesions occurred during the third and fourth decade, and as people aged, the prevalence of cancer also rose. (Table 3).

Table 3: Correlation of age with histopathological lesion of adnexal masses

| Age group in years | Ectopic gestation | Non neoplastic | Inflammatory | Benign/Borderline | Malignant | Total |
|--------------------|-------------------|----------------|--------------|-------------------|-----------|-------|
| 1-20 | 4(33.4%) | 0(0.00%) | 0(0.00%) | 8(66.7%) | 0(0.00%) | 12 |
| 21-40 | 13(20.3%) | 9(14.0%) | 4(6.3%) | 35(54.7%) | 3(4.7%) | 64 |
| 41-60 | 0(0.00%) | 1(3.7%) | 2(7.4%) | 16(59.5%) | 8(57.1%) | 27 |
| >61 | 0(0.00%) | 0(0.00%) | 0(0.00%) | 3(42.9%) | 4(29.65%) | 7 |
| Total | 17 | 10 | 6 | 62 | 15 | 110 |

In our study, abdominal pain was the most frequent clinical complaint, followed by visible lumps and irregular menstruation. Dysuria, weight loss, and tiredness symptoms were also present in some patients (Table 4).

Table 4: Distribution of cases according to clinical presentation

| Symptoms | No. of patients | Percentage |
|--------------------------|-----------------|------------|
| Pain | 60 | 54.54% |
| Abdominal mass | 40 | 36.36% |
| Menstrual irregularities | 32 | 29.09% |
| Other complains | 08 | 7.27% |

In our analysis, ovarian pathology accounted for 79% of adnexal mass cases, tubal pathology accounted for 15.45%, and combination pathology, or endometriosis and tubovarian abscess, accounted for 5.45%. When it came to ovarian lesions, 9.1% of cases had surface epithelial lesions, whereas 50% of cases had nonneoplastic cysts like corpus luteal cysts or endometriosis (Tables 5 and 6).

Table 5: Histopathological categorization of adnexal masses

| Histology of Adnexal Masses | No. of patients | Percentage |
|-----------------------------|-----------------|------------|
| Ectopic Gestation | 17 | 15.5% |
| Inflammatory Lesion | 06 | 5.5% |

| | | |
|---------------------------|-----|-------|
| Non Neoplastic Cyst | 10 | 9.1% |
| Surface Epithelial Lesion | 55 | 50% |
| Germ cell tumor | 14 | 12.7% |
| Sex Cord Stromal Tumor | 04 | 3.6% |
| Metastatic Malignancy | 04 | 3.6% |
| Total | 110 | 100 |

Table 6: Categorization of ovarian masses according to histopathology

| Ovarian neuroplasm | No. of patients | Percentage |
|--------------------|-----------------|------------|
| Benign | 57 | 74.0% |
| Borderline | 05 | 6.5% |
| Malignant | 15 | 19.5% |
| Total | 77 | 100 |

Out of a total of 110 cases, 77 were of ovarian origin, with 57 (74%) being benign, 05 (6.5%) borderline, and 15 (19.5%) being malignant. Serous cystadenoma (21 instances) and mucinous cyst adenoma were the most prevalent benign lesions (14 cases). Papillary adenocarcinoma (10 instances) and metastatic adenocarcinoma were the two most frequent malignant lesions (3 cases).

90 of the 110 cases of adnexal masses in our study occurred in premenopausal women, and 20 occurred in postmenopausal women. Nine instances showed malignant or borderline pathology out of the 90 premenopausal cases, leaving 81 (90%) with benign lesions. Similar to this, 9 (45%) of the 20 cases of postmenopausal age had benign lesions, while 11 (55%) had malignant lesions.

Discussion

A lesion called an adnexal mass can develop from the ovary, the fallopian tube, or the nearby connective tissue. With an incidence of 0.17% to 5.9% in asymptomatic females and 7.1% to 12% in symptomatic females, it is a reasonably prevalent gynaecological issue [6]. Ectopic pregnancies, benign neoplasms, endometriotic cysts, and tuboovarian abscesses are frequent in the reproductive age group, although malignancy is uncommon. In

postmenopausal women with adnexal masses, both primary and secondary ovarian neoplasms, as well as leiomyoma and wide ligament fibroid, must be taken into account. Since ovarian cancer has the poorest prognosis of all gynaecological cancers, it is crucial to get a diagnosis as soon as possible.

In the current study, the seventh decade of life saw the highest incidence of cancer. Our results are consistent with those of Dotlic *et al.* [7], who examined 87 instances of adnexal masses and discovered that the majority of cases came from the reproductive age group while the incidence of malignancy was shown to be greater in postmenopausal age.

The average age of the patients in the 100 cases of adnexal masses investigated by Radhamani *et al.* [8] was 38.11 years, while the mean age of patients with malignancy was higher at 45 years. Patients' ages ranged from 17 to 80 years. In their investigation of 75 cases of adnexal masses, Mittal *et al.* [9] found that the majority of malignant cases occurred in patients above the age of 40. The study group had a mean age of 36 years.

In our investigation, stomach discomfort and lumpy abdomen were the two most frequent clinical manifestations. Gastrointestinal, constitutional, and dysuria symptoms were

less frequent. Our findings are in line with those of Sharddha *et al.* [10], who discovered that stomach discomfort was the most prevalent complaint (61.8%), followed by menstrual irregularities (25.6%). Abdominal discomfort was the most prevalent clinical symptom (76%) in the 110 ovarian neoplasm cases evaluated by Wassim *et al.* [11], followed by a lumpy abdomen (41%). According to Seemer *et al.* [12], menstrual abnormalities (20.83%), pain in the abdomen (61%) and lumps in the abdomen (70.83%) were the most frequent clinical presentations.

Out of the 110 cases in our study, the majority had ovarian origins, with a very small number having both tubal and ovarian origins. Our results are consistent with those of Mittal *et al.* [9], who examined 75 instances of adnexal masses and discovered that 24% of them had tubal origins, 68% had ovarian origins, and 8% had a dual origin, meaning they originated from both the tubes and the ovaries. Seemer *et al.* [12] noted ovarian disease in 60% of cases, tubal pathology in 33.33% of cases, and mixed pathology in 6.66% of cases. Our findings, however, are at odds with those of Tripathi *et al.* [13], who examined 100 instances of adnexal masses and discovered that 56% of cases included ectopic gestation, 10% involved ovarian origin, 31% involved a dual origin, and 3% involved the wide ligament.

Ectopic pregnancy was observed in 15.45% of the 110 instances in our study. Endometriotic cyst and tuboovarian abscess were two other non-neoplastic lesions.

77 out of 110 instances that were diagnosed as ovarian neoplasms were benign (74%), had borderline pathology (6.5%), or were malignant (19.5%). Serous cyst adenoma, mucinous cyst adenoma, and dermoid cyst were the most prevalent benign lesions. Papillary adenocarcinoma is the most

frequent malignant lesion, followed by metastatic adenocarcinoma.

84.5% of the 97 cases of ovarian neoplasms investigated by Modi *et al.* [14] were benign, 2.1% were borderline, and 13.4% were malignant. In both benign and malignant categories, surface epithelial tumours were the most prevalent histological type, followed by germ cell tumours. Their findings concur with those of our investigation.

In a study by Kumari *et al.* [15], 65 cases of adnexal masses were examined, of which 40 had benign histopathological diagnoses, 4 had borderline diagnoses, and 21 had malignant diagnoses. Mucinous cyst adenocarcinoma was the most prevalent malignant tumour (12.3%), followed by serous cyst adenocarcinoma (10.8%). Their investigation found that the most prevalent malignant tumours were surface epithelial in origin, which is similar to our conclusion.

A study of 150 ovarian neoplasm cases was conducted by Priya *et al.* [16]. They discovered that 44 were malignant (25.33%), 3 were borderline (2.0%), and 103 were benign (68.66%).

Surface epithelial tumours were the most frequently observed histopathologically in 93 (62%) cases, followed by germ cell tumours in 37 (24.67%) cases and sex cord stromal tumours in 14 (9%).

Over a ten year period, Mondal *et al.* [17] assessed the histological pattern of 957 ovarian neoplasms. Serous cystadenoma (29.2%), mature teratoma (15.9%), and mucinous cyst adenoma (11.2%) were the three most frequent histological types. Most malignant tumours that were observed were those that emerged from the surface epithelium. In their investigation, serous cystadenocarcinoma was the most prevalent malignant tumour.

In a study of 236 ovarian masses, Forae *et al.* [18] discovered that 121 instances were non-neoplastic lesions (functional cysts), 79 (33.5%) were benign neoplasms, and 36 (15.6%) were malignant lesions. Corpus luteal cyst was the most typical histopathologically observed non-neoplastic lesion, followed by hemorrhagic cyst. In their investigation, surface epithelial cell tumour was the most prevalent malignant lesion, followed by germ cell tumour. Contrary to our study, where the most prevalent malignant lesion was surface epithelial in origin, this finding

Conclusion

Finally, an adnexal mass frequently presents a diagnostic challenge to the treating doctor. Patients in the reproductive age range who experience adnexal mass frequently have an ectopic pregnancy. The most frequent benign ovarian lesion is a serous cyst adenoma, while the most frequent malignant ovarian lesion is a serous cyst adenocarcinoma. Ovarian neoplasms are another important factor in the development of adnexal masses. The drawback of our study is the relatively small sample size of 110 patients, and not all patients had access to pertinent ultrasonographic findings. To make a comment on the histological subtypes found in adnexal masses, large multicentric studies are necessary.

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