

A Clinicopathological Study of Tubo-Ovarian Lesions and its Correlation

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Abstract

Background: Tubo-ovarian mass present differently clinically, morphologically and has characteristic histological features. The aim of this study is to categorise the tubo-ovarian lesions according to primary complaints, age, microscopic features with different clinical presentation and their histopathological co-relation and radiological study.

Methods: The clinico-pathological correlation of various tubo-ovarian abnormalities in 75 cases over the course of a year served as the foundation for the current prospective study (September 2021 to August 2022). The tubo-ovarian lesions were categorised using the histological reports, which also correlated with and supported the radiological and clinical findings.

Results: Out of 75 cases, 51 (68%) involved the ovary, 18 (24%) the tubal, and 6 (8%) the both at the same time. Six of the 18 tubal lesions were ectopic gestational lesions, and the remaining two were salpingitis. Of the ovarian lesions, there were 41 cases of ovarian neoplasms, which were divided into benign and malignant types. The most prevalent benign tumour was a serous cystadenoma, while the most aggressive tumour was a serous cystadenocarcinoma.

Conclusion: The correlation between the clinical, radiological, and histological diagnoses was statistically analysed, and it was shown to be highly significant. The accuracy of the diagnosis is increased by a thorough clinical, radiological, and histological evaluation.

Keywords: Histopathological, cystadenoma, cystadenocarcinoma.

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Introduction

The fallopian tubes are a pair of tubular structure that connect the uterine cornua with ovaries in the broad ligament [1]. Ectopic tubal pregnancy and inflammation are the two conditions that impact fallopian tubes the most frequently, followed by endometriosis and uncommon primary tumours in that order. An implantation of a fertilised egg outside the uterine corpus is known as an

ectopic pregnancy [2,3]. The incidence of ectopic pregnancy is approximately 19.7/1000 pregnancies in affluent nations, and it is 3.12/1000 pregnancies in India [4,5]. Fallopian tubes are the most typical location for ectopic pregnancy (90–95%) [6,7]. Vaginal haemorrhage (of various intensities), acute lower abdominal pain [8]. pelvic pain, a painful cervix, an adnexal lump, or adnexal

tenderness are all indications of an ectopic pregnancy [9].

Materials and Methods

From September 2021 to August 2022, 75 instances of tubo-ovarian lesions were examined in the current study at the Department of Pathology, Sri Krishna Medical College and Hospital, Muzaffarpur, Bihar. Patients who complained of stomach pain or distension with or without vaginal bleeding were evaluated and tested for tubo-ovarian lesions. Following a radiological opinion, surgical intervention was performed on the cases that were diagnosed, and the

specimens were submitted in formalin containers to the pathology department. The tissues underwent a gross examination and were processed after being fixed. H&E dye was used to colour the paraffin sections, which were then examined under a microscope. The information was gathered, the lesions were categorised, and the clinical and radiological findings were correlated using the histo-pathological reports.

Results

A total of 75 cases of tubo ovarian lesions were studied.

Table 1: Distribution of organ involved

Organ	No. of cases	Percentage
Ovary	51	68%
Tube	18	24%
Tubo Ovarian	6	8%
Total	75	100%

Table 2: Number of cases of Tubal and Tubo Ovarian Lesions in various age groups (n=24)

Age groups (in years)	Histopathological Examination			Total
	Ectopic	Inflammatory	Rupture Ectopic	
11-25	4	2	2	8
26-40	6	5	4	15
41-55	0	1	0	1
>55	0	0	0	0
Total	10	8	6	24

Table 3: Number of cases of Ovarian Lesions in various age groups (n=51)

Age groups (in years)	Histopathological Examination		Total
	Benign	Malignant	
11-25	14	2	16
26-40	19	0	19
41-55	6	4	10
>55	2	4	6
Total	41	10	51

Table 4: Presenting complaints in Tubo-ovarian lesions

Presenting complaint	Present	Absent
Mass abdomen	46(61.30%)	29(38.70%)
Pain abdomen	72(96.0%)	3(4.0%)
Bleeding per vaginum	34(45.30%)	41(54.70%)

Table 5: Histopathological diagnosis

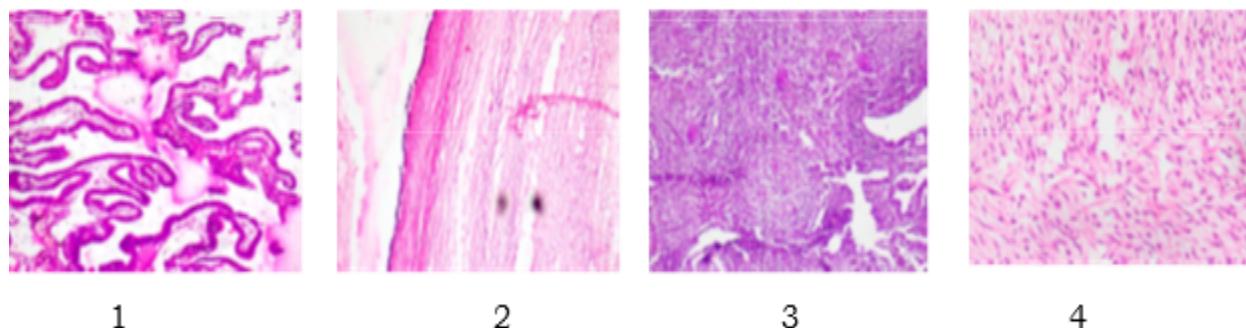
Diagnosis	No. of cases	Percentage
Dermoid	10	13.3%
Dysgerminoma	2	2.7%
Ectopic	10	13.3%
Fibroma	2	2.7%
Follicular Cyst	3	4.0%
Granulosa Cell Tumor	2	2.7%
Haemorrhagic Cyst	7	9.3%
Inflammatory	7	9.3%
Granulomatous	1	1.3%
Mucinous Cystadenoma	3	4.0%
Mucinous Cystadenocarcinoma	1	1.3%
Metastatic Deposits	1	1.3%
Rupture Ectopic	6	8.0%
Serous Cystadenoma	16	21.3%
Serous Cystadenocarcinoma	4	5.3%
Total	75	100%

Table 6: Classification of ovarian Neoplasms (n=41)

Type	No. of cases	Percentage
Surface Epithelial	24	58.50%
Sex Cord Stromal	4	9.70%
Germ Cell	12	29.20%
Metastatic	1	2.40%
Total	41	100%

Relationship between histopathological diagnosis and clinical and radiological diagnosis in ovarian and tubal lesions.

The diagnosis of ovarian and tubal abnormalities was 100% correlated. Following statistical analysis, the association was found to be extremely significant with a p value of <1 (p=.000).



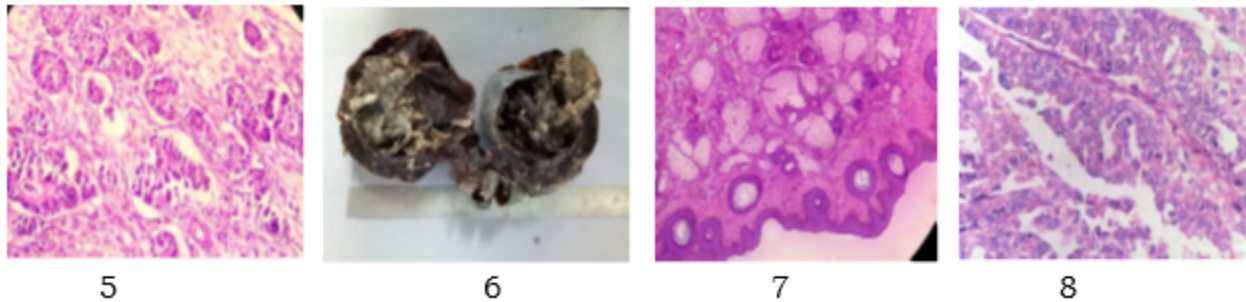


Figure 1: Tubal ectopic showing chorionic villi (H&E 100X)

Figure 2: Granulomatous lesion showing well-formed granulomas (H&E 100X)

Figure 3: Serous Cystadenoma – Section showing serous lining (H&E x 100)

Figure 4: Fibroma - Section showing bundles of spindle cells with abundant collagen (H&E x 100)

Figure 5: Bilateral Dermoid Cysts: Well encapsulated with cut surface showing cheesy material and hair (Gross)

Figure 6: Mature teratoma: Section showing epithelial lining along with hair follicles and sebaceous glands (H&E x 100)

Figure 7: Serous cystadenocarcinoma ((H&E X400)

Figure 8: Metastatic deposits (H&E x 100)

Discussion

It is quite uncommon to examine lesions on the ovaries and tubes together as a tubo-ovarian mass. Out of a total of 75 instances over a given time period, 51 cases of pure ovarian lesions, 18 cases of pure tubal lesions, and 6 cases of combination tubal and ovarian lesions were discovered.

The current study's tubal pregnancy rate (15 of 16 ectopic pregnancies, or 93.75%) is quite similar to that of Seemer *et al* (2014) study, which was 88.89% [10].

The majority of ectopic pregnancies, including ruptured ectopics, were identified in the age range of 26 to 40 years in the current study. This is similar to the study by Sharma and Biligi (2015), in which the age range of 28 to 32 years was the one with the highest percentage of ectopic cases (40.81%) [11]. According to a study by Badge *et al.* (2013) [12], the third decade saw the highest percentage of benign tumours (20%), while the fifth decade saw the highest percentage of malignant tumours (9%)

The age range of 26 to 40 years saw the highest percentage of benign cases (46.3%) in the current study, whereas individuals beyond 40 years of age had the highest percentage of malignant cases.

In the current investigation, hemorrhagic luteal cysts made up the bulk of the 15 cases of non-neoplastic ovarian lesions, accounting for 7 (46.6%), infective pathology in tubo ovarian mass for 5 (33.3%), and follicular cysts for 3 (20%).

Maharjan *et al.* (2013) [13], conducted a study in which the bulk of the 20 non-neoplastic ovarian lesions were hemorrhagic luteal cysts in 14 (70%) cases, endometriosis in 3 (15%) cases, follicular cysts in 2 (10%) cases, and tubo-ovarian abscesses in 1 (5%) instances.

Serous cystadenomas (51.6%) were the most prevalent neoplastic benign tumours in the current study, followed by mature cystic teratomas (32.2%), and serous cystadenocarcinomas (40%) were the most

prevalent malignant tumours, followed by dysgerminomas (20%) and granulosa cell tumours (20%). This closely relates to the research done by Badge *et al* (2013) [12].

Conclusion

The clinical and pathological characteristics of tubal and ovarian lesions span a broad spectrum. A precise clinical and radiographic examination, in addition to the histological investigation, helps in better grading and staging, boosting the diagnostic accuracy even if the histopathological examination is still the gold standard for the diagnosis of these lesions.

References

1. Anderson JR and Genadry R. Anatomy and embryology. In: Berek JS (eds). Novak's Gynecology (13th edn.). Lippincott Williams and Wilkins, 2002;69-121.
2. Kumar V, Cotran RS, Robbins SL. Female genital system and breast. In: Kumar V, Cotran RS, Robbins SL (eds). Basic Pathology (6th edn.) Harcourt Asia PTE LTD 2001;597-636.
3. Dimitry ES and Rizk B. Ectopic pregnancy: Epidemiology, advances in diagnosis and management. Br J Clin Pract 1992;46(1):52-4.
4. Kamwendo F, Forslin L, Bodin L, Danielsson D. Epidemiology of ectopic pregnancy during a 28-year period and the role of pelvic inflammatory disease. Sex Transm Infect 2000;76(1):28-32.
5. Mufti S, Rather S, Mufti S, Rangrez RA, Wasiaq, Khalida. Ectopic pregnancy: An analysis of 114 cases. JK Pract 2012;17(4):20-3.
6. Ellenson LH, Pirog EC. The female genital tract. In: Kumar V, Abbas AK, Fausto N, Aster JC, editors. Robbins and Cotran Pathologic Basis of Disease. (8th edn.) New Delhi: Elsevier 2010;1053-4.
7. Wheeler JE. Diseases of the fallopian tube. In: Kurman RJ, editor. Blaustein's Pathology of the Female Genital Tract. (5th edn.) New York: Springer; 2002;617-48.
8. Kirk E, Bottomley C, Bourne T. Diagnosing ectopic pregnancy and current concepts in the management of pregnancy of unknown location. Human Reproduction Update. 2014;20(2):250-61.
9. Crochet JR, Bastian LA, Chireau MV. Does this woman have an ectopic pregnancy? the rational clinical examination systematic review. JAMA. 2013;309(16):1722-9.
10. Seemer HS, Kundal R, Marwaha P. Clinico-Pathological Correlation of Tubo-Ovarian Lesions: A Study of 75 Cases. Research & Reviews: Journal of Medical and Health Sciences 2014;3(4):117-26.
11. Sharma R and Biligi DS. A study of histopathological changes in fallopian tubes in ectopic pregnancy. International Journal of Current Research and Review. 2015;7(16):54.
12. Badge SA, Gosavi AV, Sulhyan KR. Histopathological Study of Ovarian Tumors. Indian Medical Gazette. 2013;346-51.
13. Maharjan S. Clinic morphological study of ovarian lesions. Journal of Chitwan Medical College 2013;3(6):17-24.