



HISTOPATHOLOGICAL STUDY OF SPECTRUM OF LESIONS SEEN IN SURGICALLY RESECTED SPECIMENS OF FALLOPIAN TUBES AND OVARIES IN A TERTIARY CARE HOSPITAL

Pathology

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ABSTRACT

The fallopian tube and ovaries are complex structures in female genital tract and are the most common histopathological specimens in a gynaecological pathology laboratory. They may be examined individually as salpingectomy, oophorectomy or as a part of hysterectomy specimens. There are many studies on ovarian tumours but very few studies are seen in literature discussing the spectrum of histopathological lesions in the fallopian tube. Wide spectrum of lesions are encountered in fallopian tubes, ranging from Salpingitis, tubal ectopic pregnancy to carcinoma either primary or metastasis. Ectopic pregnancy is a condition in which the embryo is implanted outside the endometrial cavity³. Majority of the ectopic pregnancies (90%) occur in fallopian tubes which are then referred to as tubal pregnancy.⁴ Ovarian tumours are the most frequent type of cancer in females, accounting for about one-third of all genital tract malignancies and ranks sixth among all cancers in this group.^{6,7} Thus the study of various histopathological lesions seen in surgically resected specimens of fallopian tube and ovaries and to study the frequency of various pathological lesions of fallopian tubes and ovaries along with the age distribution is important. **Summary:** The study of fallopian tube lesions is important as only few studies are available in the literature and also study of ovarian lesions is also important as they are the common lesions seen in the female patients.

KEYWORDS

Salpingectomy, Oophorectomy, Ectopic pregnancy, Ovarian Cancer.

The fallopian tube and ovaries are complex structures in female genital tract and are the most common histopathological specimens in a gynaecological pathology laboratory. They may be examined individually as salpingectomy, oophorectomy or as a part of hysterectomy specimens. There are many studies on ovarian tumours but very few studies are seen in literature discussing the spectrum of histopathological lesions in the fallopian tube.

The fallopian tubes are paired hollow tubular structures, located at the superior aspect of the uterine cavity, from the uterine cornua to the ovaries. They are approximately 7 – 12 cms long. They play a major role in ovum pick up, fertilization and providing safe passage and nourishment to the fertilized ovum.¹ The fallopian tube is one of the commonly received and examined specimen in histopathology, resected either alone due to inherent pathological process, or as a part of hysterectomy and/or oophorectomy operation.² Wide spectrum of lesions are encountered in fallopian tubes, ranging from Salpingitis, tubal ectopic pregnancy to carcinoma either primary or metastasis. Ectopic pregnancy is a condition in which the embryo is implanted outside the endometrial cavity³. Majority of the ectopic, pregnancies (90%) occur in fallopian tubes which are then referred to as tubal pregnancy.⁴

Both benign and malignant lesions are commonly observed in the ovaries. They are very heterogeneous both within and across histologic groups, ranging from benign cysts to malignant tumours.⁵ Ovarian tumours are the most frequent type of cancer in females, accounting for about one-third of all genital tract malignancies and ranks sixth among all cancers in this group.^{6,7} The ninth most prevalent malignancy in women is epithelial ovarian cancer. The risk of ovarian cancer rises markedly with age. Around 70% of cancers develop during the reproductive years.⁸

The aims and objectives of this study are to describe various histopathological lesions seen in surgically resected specimens of fallopian tube and ovaries and to study the frequency of various pathological lesions of fallopian tubes and ovaries along with the age distribution.

MATERIAL AND METHODS:

The present study is a prospective study conducted in Government maternity hospital, Sultan bazar, Hyderabad which included all

Salpingectomy and oophorectomy specimens sent separately or in association with uterus as hysterectomy specimens to the Department of Pathology.

The study is conducted over a period of one year. Data collected included age, clinical history, gross and microscopic findings. A total of 80 cases of tubal pathology and ovarian pathology were included in the study.

Specimens received in the department of Pathology were labelled, Gross examination was done and the tissue was preserved in 10% formalin immediately. After fixation of the tissue for 24-48 hours, it was sectioned and processed for microscopy. Slides were stained with Hematoxylin and Eosin stain. Stained histopathology slides were examined and reported.

The fallopian tubes were sampled using SEE FIM protocol in order to ensure optimal histological evaluation. As per the protocol the distal 2 cm (the fimbrial end) of the fallopian tube was amputated from the rest of the tube and sectioned longitudinally. The remainder of the tube was cut in cross sections (bread loafed) at 2-3 mm interval. The entire specimen was submitted for process.⁹

OBSERVATIONS AND RESULTS

A total of 80 cases of tubal pathology and ovarian pathology were studied over a period of 1 year with ages ranging from 19 years to 51 years.

Table-1: Age Wise Distribution

AGE IN YEARS	NO. OF CASES	PERCENTAGE (%)
<20	06	8%
21-30	43	54%
31-40	13	16%
41-50	17	21%
51-60	01	1%
Grand Total	80	100%

Majority of the cases found to be within in the age group of 21-30 years, 43 cases (54%).

Table-2: Type of Specimen

Type of specimen	No. of Specimens	Percentage (%)
Unilateral Salpingectomy	41	51%
Hysterectomy+Bilateral Salphingo oophorectomies	16	20%
Ovarian Cystectomy	14	18%
Salpingo-oophorectomy	05	6%
Hysterectomy with one sided Salpingo-oophorectomy	02	3%
Bilateral salpingectomy	01	1%
Salpingectomy+ Myomectomy	01	1%
Grand Total	80	100%

Table-2 shows spectrum of types of specimens studied. As the study was conducted in a maternity hospital 41 out of 80 specimens were salpingectomy specimens (51%) contributing to majority of specimens followed by hysterectomy with bilateral salpingo-oophorectomy specimens 16 cases (20%). The lowest number of specimens were bilateral salpingectomies and salpingectomy along with myomectomy specimens each with 1 case (1%).

Table-3: Tubal Pathology

Lesions	No. of cases	Percentage (%)
Ectopic gestation	29	52%
Chronic salpingitis	12	21%
Normal histology	10	18%
Tubal cyst	3	5%
Tubal endometriosis	1	2%
Mucinous cystadenofibroma	1	2%
GRAND TOTAL	56	100%

Out of 56 tubal pathologies 29 (52%) were ectopic gestations followed by chronic Salpingitis of 12 cases (21%). 10 cases are of no specific pathology or normal histology. 3 cases (5%) of Para tubal cyst. There was one case of tubal endometriosis and we reported a rare case of mucinous cystadenofibroma in fallopian tube with only 15 reported cases worldwide.

Table-4: Ovarian Pathology

Lesions	No. of cases	Percentage (%)
Benign cysts	11	39%
Mature Cystic teratoma	5	18%
Serous cystadenoma	4	14%
Mucinous cystadenoma	3	11%
Normal histology	2	7%
Ovarian fibroma	1	4%
Endometriosis	1	4%
Capillary Hemangioma	1	4%
GRAND TOTAL	28	100%

The most common lesion in ovary was benign cysts which constituted 11 cases out of 28 cases (39%). Followed by mature Cystic Teratoma 5 cases (18%). There were 7 epithelial tumours reported 4 are of serous origin and 3 are of mucinous origin. We reported an uncommon case of Capillary Hemangioma in ovary which is accounting for 60 reported cases in literature

DISCUSSION:

Our study was undertaken in tertiary care hospital with gynaecological speciality. The study comprised of 80 cases including Tubal and Ovarian pathologies.

In the present study majority cases are in the age group of 21 to 30 years (54%). These findings were in concordance with the study conducted by Mahajan et al¹⁰ in 22 out of 62 cases (35%) and B. Vishakha et al¹¹ 24/40 around 60% cases. But these studies were conducted on fallopian tube lesions alone.

Most common specimens received were unilateral salpingectomy 41 cases (51%), followed by hysterectomy with bilateral Salpingo oophorectomy 16 cases (20 %), which was in concordance with the study of B. Vishakha et al¹¹, with 57.1% and 38.5% respectively.

According to study conducted by Bhattacharya et al¹², fallopian tubes were received as a part of Total abdominal Hysterectomy with bilateral salpingo-oophorectomy in most of the cases (60%), which was in discordance with our study in which unilateral salpingectomies were more common.

In India the incidence of Ectopic Pregnancy is 3.12 per 1000 pregnancies and Fallopian Tube is the commonest site followed by the ovary and abdominal cavity.¹³ (figure2). Among Tubal pathologies 29 out 56 cases (52%) were ectopic Pregnancies which was in concordance with the B. Vishakha et al¹¹ constituting 58.5 %. Second common tubal pathology encountered was Salpingitis in our study.



Figure-1 Cut section of ovary showing cyst with cyst wall with lesion (Arrow)showing dark brown with spongy texture



Figure-2:Gross image of ectopic fallopian tube-Dilated with distended wall. Inset-cut section with gestational sac(Arrow)

Salpingitis is inflammation of salpinx and is one of the most common serious infections of women in reproductive age group. Commonly due to ascending infection and can vary from asymptomatic to life threatening illnesses. In our study the fallopian tubes with unremarkable pathology or normal histology were 10 out of 56 comprising of 18%. In the study conducted by Anand. S. Patil et al¹⁴ 73.7% of the cases were having no pathology.

Cystadenofibromas of the fallopian tube are benign tumors with rare malignant potential and only 15 cases reported in literature worldwide.¹⁵ We report a case of mucinous Cystadenofibroma in the fallopian tube which is considered to be the rare lesion of fallopian tube. We studied 28 lesions of ovary in which 11 were simple cysts constituting about 39% which was similar to the study done by Patil et al¹⁶ constituting of 34.2% (10 out of 38).

In the study conducted by Sawant et al¹⁷, the benign cysts were about 77% which was in discordance with our study. The second most common lesion in the ovary that we observed in our study was Mature Cystic Teratoma (Figure 6) constituting 18% (5 out of 28 cases). In Patil et al¹⁶ the percentage of the ceases of mature Teratoma were 13.2%. In our study Serous Cystadenoma and Mucinous Cystadenoma cases were 4 and 3 respectively out of 28 cases constituting 18 % and 14% which was 15.8% and 5.3% respectively in the study conducted by Patil et al.¹⁶ Ovarian fibromas are solid stromal tumors of the ovary¹⁸ microscopically it shows bland spindle cells with storiform growth and collagen bundles. (Figure 4)

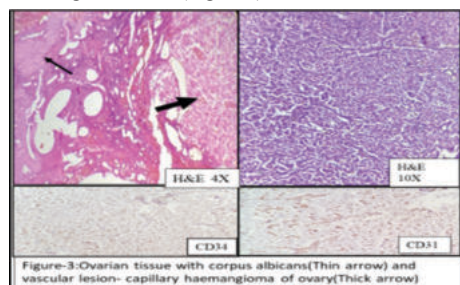


Figure-3-Ovarian tissue with corpus albicans(Thin arrow) and vascular lesion- capillary haemangioma of ovary(Thick arrow)

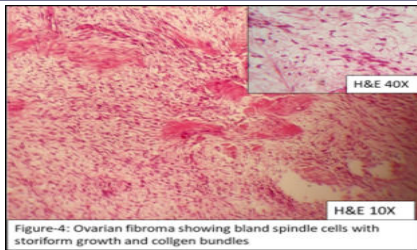


Figure-4: Ovarian fibroma showing bland spindle cells with storiform growth and collagen bundles.



Figure-5: Fallopian tube with adjacent para tubal cyst

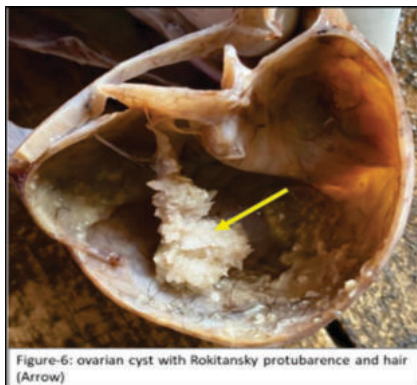


Figure-6: ovarian cyst with Rokitansky protuberance and hair (Arrow)

One case of Capillary Hemangioma of ovary was reported in our study (Figure 1 and 3). Capillary Hemangiomas are uncommon benign vascular tumors of ovary, most commonly hemangiomas of ovary are incidentally detected at the time of surgery or autopsy, few patients may develop abdominal pain, abdominal mass and ascites.¹⁷

CONCLUSION:

In our study, a total of 80 cases were studied. The most common fallopian tube lesions encountered were ectopic pregnancies and the most common ovarian lesions studied were benign cysts. Few rare lesions like Mucinous Cystadenofibroma of fallopian tube and Ovarian hemangioma were also studied in our study.

Conflicts Of Interest: NONE

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