



RESEARCH ARTICLE

A HISTOMORPHOLOGICAL STUDY OF FALLOPIAN TUBES IN A TERTIARY CARE HOSPITAL IN SOUTH INDIA

Dr. Rajesh L.G

Assistant Professor, Department of Pathology, Maheshwara Medical College & Hospital, Hyderabad, Telangana, India.

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Abstract

Introduction: Fallopian tubes are complex structures¹. Fallopian tubes are part of female genital tract named after Italian physician Gabriele Fallopius in 16th century^{2,16}. Fallopian tube lesions are non-neoplastic and neoplastic. Non neoplastic lesions are the major cause of sterility¹³. Present study was under taken with objectives of study all histomorphological lesions of fallopian tubes in bilateral salphingoophorectomised patients.

Material and methods: A total number of 249 specimens of hysterectomy with bilateral salpingectomy. Histosalphingoophorectomy cause were studied in the department of pathology SDM College of medical sciences and Hospital Dharwad over a period of 7 years form July 2012 to June 2019. The clinical data, gross and microscopic findings were studied. Incidence and prevalence were calculated.

Results: In our study Hydrosalpinx (20.1%) is the commonest finding, Tubal atypia 14.9%, Tubal metaplasia 14%, acute salpingitis 9.2%, Metastatic lesions 6%, Hematosalpinx 6.8%, fallopian tube showing STIC lesions 3.6%, TuberculousSalpingitis 3.2%

Conclusion: Fallopian tube lesions present with different pathological findings. Precursors of malignancy in fallopian tube has to be thoroughly examined.

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Introduction:-

Fallopian tubes are the part of the female genital tract. Gabriele Fallopius a 16th century Italian described anatomical course of the fallopian tubes.¹⁶ Fallopian tubes divided into the following regions. 1) Infundibulum – distal portion opens into the peritoneal cavity ringed by fimbrial projections. 2) Ampulla 3) Isthmus – merges with uterus forming intramural portion.³

Histologically fallopian tubes have 4 layers. Mucosa, Lamina propria, Muscularis proper and Serosa.³ Measures on an average 11-12cm. Fallopian tubes lesions are non neoplastic and neoplastic. The significance of pathologic changes in fallopian tubes is related to possible effect on fertility.

Non Neoplastic lesions form the major part of the lesion in which inflammatory diseases of the tube (salpingitis) is the main cause of secondary sterility by occlusion or stenosis.¹ Fallopian tubes play essential role in fertility by

Corresponding Author:- Dr. Rajesh L.G

Address:- Assistant Professor, Department of Pathology, Maheshwara Medical College & Hospital, Hyderabad, Telangana, India.

acting as duct for sperms and oocyte and gives nourishment for fertilized ovum.¹⁷ Tubes are less frequently affected by ectopic tubal pregnancy, endometriosis and rarely primary tumours. Involvement of fallopian tubes from the primary tumours from ovaries, cervix and endometrium are seen. Tubal metastasis always diagnosed in last stages and have poor prognosis.

The present study was undertaken to study the various histomorphological lesions of the fallopian tubes in hysterectomy with bilateral salpingectomy and hysterosalpingo-oophorectomised patients.

Material and Methods:-

The present study includes surgically resected specimens of hysterectomy with bilateral salpingectomy and salpingo-oophorectomy received in the department of pathology SDM College of Medical Science and Hospital, Dharwad. Approval of conduction of study was taken by Ethical committee.

Inclusion criteria: Study of all histomorphological lesions of Fallopian tubes

Exclusion criteria: 1. All tubectomy specimens excluded. 2. All normal fallopian tubes and Ectopic of fallopian tubes are excluded.

All the clinical details, radiological investigations of all the cases of hysterectomy with bilateral salpingectomy and hysterectomy with salpingo-oophorectomy were collected from the medical records of patient. All the specimens the gross features like size, shape, colour, external surface, cut section and contact of the specimens were noted. Specimens were cut across the greatest dimensions and with subsequent parallel sections at 0.5 – 1cm in thickness are made and fixed in 10% formalin overnight.

Fallopian tubes were sampled using SEE-FIM protocol was done from 1st July 2017. Sectioning and extensive examination of the fallopian tube – Distal 2 cm amputated, sagittally sectioned at 1 – 2 mm and submitted in single cassette. Remaining tube is gross sectioned at 1 to 2 mm intervals and submitted in separate case. The tissue is processed in automatic processor (Excelsior AS) in the department of pathology. Processed tissue is paraffin embedded and sections are cut at 4-5µm thickness (LEICA RM 2125RT) and stained with Hematoxylin and eosin.

Procedure for Hematoxylin and Eosin staining done in histopathology lab SDMCHS & H.

Data obtained were statistically analyzed using frequency and cross tabulation procedures in IBM SPSS software Version 20.0 for windows.

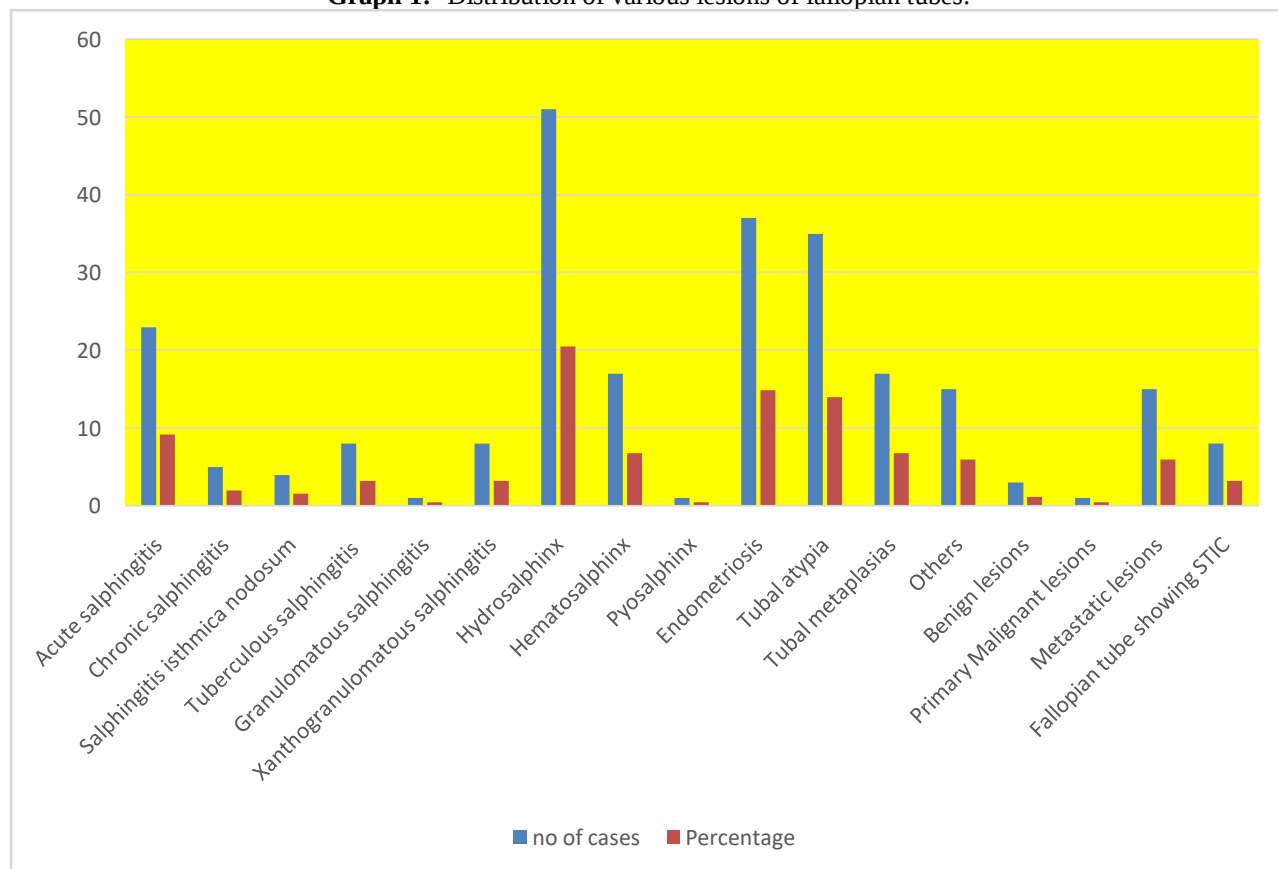
Results:-

The present study Histomorphological study of fallopian tubes over 7 years from July 2012 to June 2019 at SDM college of Medical Sciences, Dharwad. A total of 2100 hysterectomy specimens having fallopian tubes received from Obstetrics and Gynaecology department. Out of 2100 specimens, Fallopian tubes having lesions were 249, corresponding to 11.9% of fallopian tube lesions. Out of 249 lesions of the fallopian tube, non neoplastic lesions were 222(89.2%). Neoplastic lesions were 27(10.38%). In the present study non neoplastic lesions were 222(89.2%). (Table: 1) Acute salpingitis were 23(9.2%) cases. Chronic salpingitis were 5(2%). Salpingitis Isthmic nodosa were 4(1.6%) cases. Tuberculous salpingitis (Fig 1,2) were 8 (3.2%) cases. Granulomatous salpingitis was 1(0.5%). Xanthogranulomatous salpingitis were 8(3.2%). Hydrosalpinx (Fig 4) were 50(20.1%). Hematosalpinx were 17(6.8%). Pyosalpinx was 1(0.5%). Endometriosis (Fig 3) were 37(14.9%). Tubal Atypias 35(14%). Tubal metaplasia 17(6.8%) which includes oncocyctic metaplasia 1,

Transitional cell metaplasia 8 cases, squamous transitional metaplasia 1 and Decidual metaplasia 5 cases. Other lesions of the fallopian tubes were 15(6%) cases which included calcification of plicae, Monkebergs medial calcific sclerosis, oedematous plicae, Hyalinization of plicae and muscularis propria, fibrosis of the lamina and fimbrial cyst. In the present study neoplastic lesions were 27(10.8%) of fallopian tube. (Graph 1) Benign lesions were serous cyst adenofibroma 2 cases and adenomatoid tumour 1 case constituting 1.2% of fallopian tube lesions. One malignant primary lesion of fallopian tube that is endometrioid adenocarcinoma. Metastatic lesions were 15(6.0%).

Table 1:- Distribution of various lesions of fallopian tube.

SL NO	TUBAL LESIONS	NO OF CASES	INCIDENCE (%)
1	Acute salphingitis	23	9.2
2	Chronic salphingitis	5	2.0
3	Salphingitisisthmicanodosum	4	1.6
4	Tuberculoussalphingitis	8	3.2
5	Granulomatoussalphingitis	1	0.5
6	Xanthogranulomatoussalphingitis	8	3.2
7	Hydrosalpinx	51	20.5
8	Hematosalpinx	17	6.8
9	Pyosalpinx	1	0.5
10	Endometriosis	37	14.9
11	Tubal atypia	35	14.0
12	Tubal metaplasias	17	6.8
13	Other lesions	15	6.0
14	Benign lesions	3	1.2
15	Primary Malignant lesion	1	0.4
16	Metastatic lesions	15	6.0
17	Fallopian tube showing STIC lesions	8	3.2
	TOTAL	249	100

Graph 1:- Distribution of various lesions of fallopian tubes.

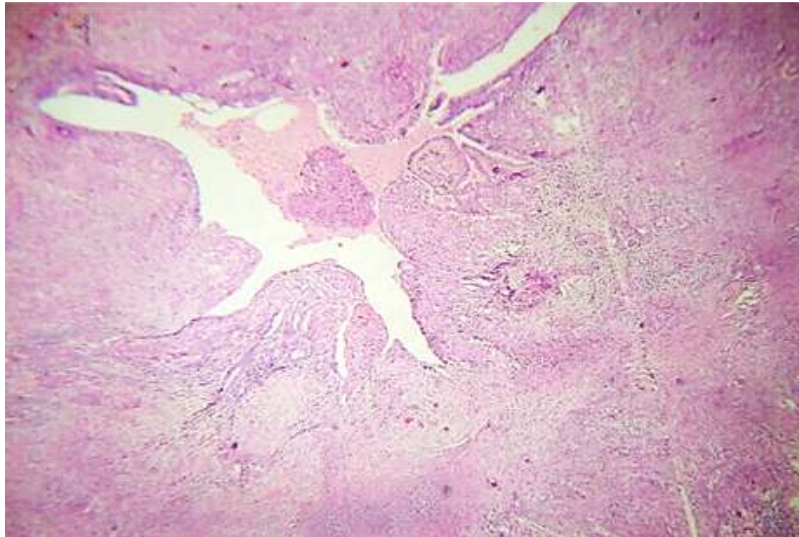


Fig 1:- TuberculousSalpingitis with caseous necrosis H&E 4x

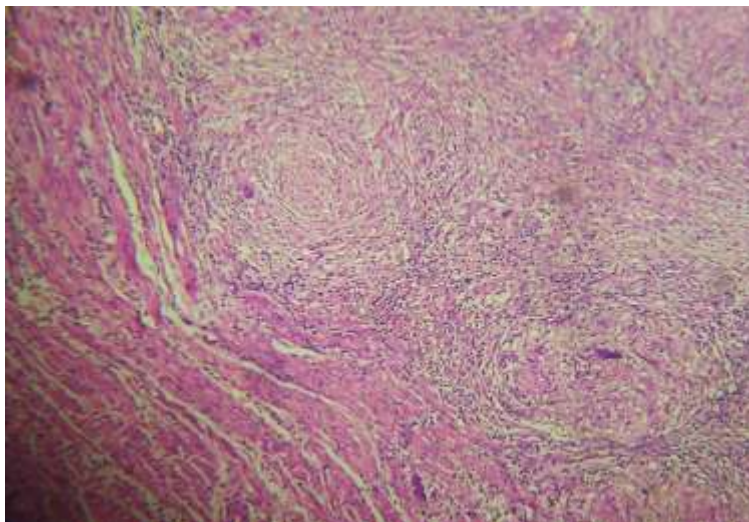


Fig 2:- Well-formed granulomas in tuberculoussalpingitis H & E 10x.

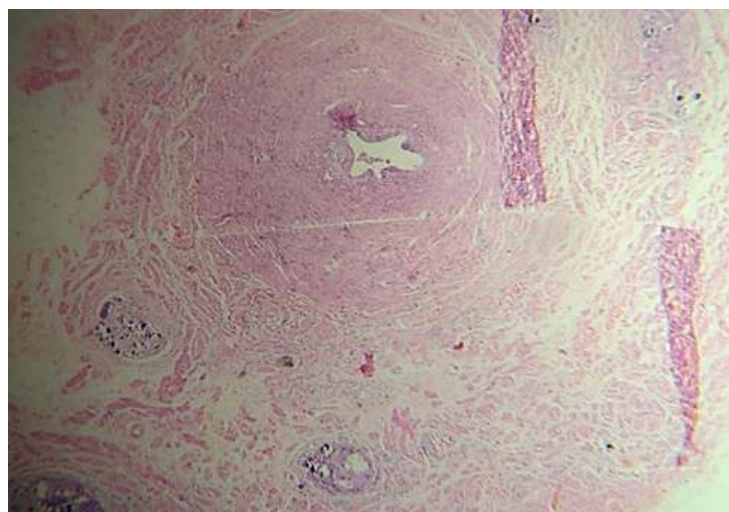


Fig 3:- Endometriosis of fallopian tube H & E 4x.



Fig 4:- Hydrosalpinx of fallopian tube H & E 10x.

Discussion:-

In the present study among 249 cases 41.3% occurred in 4th decade followed by 18.5% in 5th decade and 17.3% in 3rd decade. According to PrachiKukreja et al⁵ peak incidence of fallopian tube lesion seen in 2nd decade with 42.5% followed by 27% in 3rd decade and 21.5% in the 4th decade. Onyishiet al⁴ observed 36.7% in 5th decade followed by 34.2% in 4th decade and 12.5% in 3rd decade

In the present study out of 249 lesions of the fallopian tube, majority 23 (9.2%) were acute salpingitis, followed by other lesion including Xanthogranulomatous salpingitis 8 (3.2%) and Granulomatous Salpingitis 1 (0.5%) case, Tuberculous Salpingitis were 8 (3.2%) cases and Chronic Salpingitis were 5 (2%) cases. In the study of Bagwanet al¹ 29 (12.6%) cases were Acute Salpingitis followed by 29 (12.6%) cases of Chronic Salpingitis and 4 (1.7%) of Tuberculous Salpingitis and other lesions were 8 (3.5%) cases. Jaynisha Patel et al⁶ studied 97 cases of lesions of fallopian tubes of which 15 (15.4%) were Acute Salpingitis, 13 (13.4%) were Chronic Salpingitis and 1 (1%) was Tuberculous Salpingitis

In the present study neoplastic lesions of the fallopian tubes were 19 cases of which benign lesions like adenomatoid tumour, Adenofibroma, Serous cyst adenofibroma of the fallopian tube were seen. In PrachiKukreja et al⁵ Hydatidiform mole of 2 cases (1.6%) was noted. In Onyishiet al⁴, no benign lesions were seen.

In our study primary malignant lesions well differentiated adenocarcinoma of fallopian tube is seen corresponding to 0.4%. In PrachiKukreja et al⁵ noted 0.8%. In Onyishiet al⁴ primary malignant lesions was 1.3%. In Bagwanet al¹, only malignant lesions were seen in which primary malignancy comprised of 0.15%. In study conducted by Gon S et al, benign lesions were 0.03%, Primary malignancy in 0.03% and secondary malignancy was 0.2%. In the present study secondary malignancy was 6%. In PrachiKukreja et al⁵ noted 1.6%. In Onyishiet al⁴ showed 5% of secondary malignancy

Conclusion:-

Fallopian tubes must be thoroughly studied by SEE-FIM protocol sectioning. Non neoplastic lesions form the majority of lesions in which salpingitis, endometriosis and tuberculosis seen. Fallopian tubes are the origin of high grade serous carcinomas. Early diagnosis can improve the chances of quality life of the female population.

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