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SPECTRUM OF FALLOPIAN TUBE LESIONS- A PROSPECTIVE STUDY OF 250 CASES IN A TERTIARY CARE HOSPITAL IN CHENNAI.

Pathology

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ABSTRACT

Aim of this study is to 1) analyse the various histological lesions occurring in the fallopian tubes 2) To evaluate the incidence of both neoplastic and non neoplastic lesions.

About 250 fallopian tubes were taken up for the study,which were from total abdominal hysterectomy specimens, salpingectomies and tubo-ovarian masses. Cases belong to the age group of 20-30 yrs. Out of 250 fallopian tube lesions 28% were of normal histology .Chronic salpingitis was the most commonest lesion encountered and accounted to 33.2 %. Ectopic pregnancy was the second most common pathology encountered and accounted to 21.6 %. 2 cases of metastatic deposit one from squamous cell carcinoma of the endometrium and serous carcinoma of the ovary was recorded.

KEYWORDS:

Fallopian tubes, Ectopic pregnancy, Xanthogranulomatous salpingitis, histopathology.

1.Introduction

The fallopian tubes also called oviducts or salpinges is a pair of long and narrow structure measuring 7-12cms in length and 1cm in diameter.It has a complex anatomy starting from its embryological development ,vascular structure to ciliated microstructure and is key to the conduit of ova and fertilization.It was Fallopio who first described the fallopian tubes. His work on fallopian tubes " Examen on Fallopio" was posthumously published in the year 1564.Although fallopian tubes are common ditzels in the Pathology Laboratory, learning the various pathological lesions is of importance and only few studies have been documented in the literature.

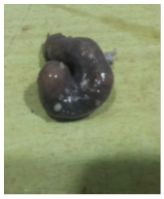
II. Materials And Methods

This prospective study was done for a period of one year from January 2016 at Department of Pathology, Stanley Medical College. All specimens of salpingectomy, salpingoopherectomy and total abdominal hysterectomy specimens sent to the Department of Pathology were analysed.Paratubal cysts were excluded in this study.

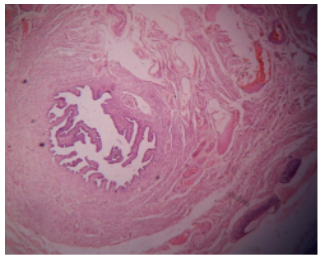
III. Results

A total of 250 specimens were analysed and the observations recorded. 26.8% of fallopian tubes showed normal histology in this study with the rest showing various pathological changes.The most common lesion was chronic salpingitis which accounted to 33.2% with ectopic pregnancy being the second most common lesion which was 21.6% .The most common age group in which it was encountered was between 20-30 yrs.Rare lesions such as xanthogranulomatous salpingitis,tuberculous salpingitis and adrenal rest were recorded.Two cases of metastatic deposits were reported ,one being squamous cell carcinomatous deposit and the other being metastasis from serous carcinoma of the ovary.

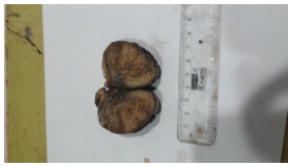
IV.Discussion



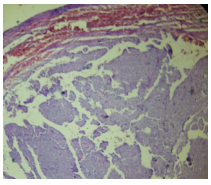
Gross photograph of Walthard Cell Nest



Photomicrograph of Walthard Cell Nest

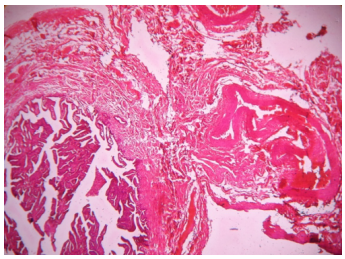


Gross photograph of metastatic adenocarcinomatous deposit of fallopian tube.

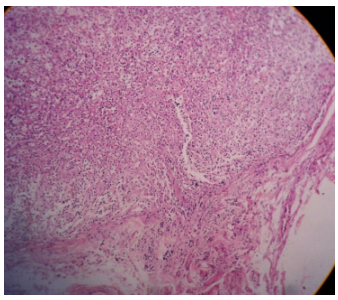


Photomicrograph of metastatic deposit adenocarcinomatous deposit.

Gross photograph of Salpingitis isthmica nodosa



Photomicrograph of Salpingitis isthmica nodosa



Photomicrograph of ectopic Adrenal cell rest in the fallopian tube

Fallopian tubes act as a muscular conduit connecting the ovaries to the uterus.Fallopian tubes are subjected to a variety of inflammatory and neoplastic lesions.Knowledge about the spectrum of lesions in the fallopian tube is the principle aim and objective of this study.

The most common site of ectopic pregnancy is the fallopian tubes with an incidence of 90%.According to the ICMR Task Force Project 1990,a multicentric case control study conducted in India,there is an increase in the incidence of ectopic pregnancy which accounts to 3.12 per 1000 pregnancies or 3.86 per 1000 live births(1) (Priti vyas).Factors predisposing to the high rate of ectopic pregnancy are increased prevalence of sexually transmitted infections, contra ception, assisted reproductive technologies,tubal sterilization techniques and early diagnostic modalities.30-50% of ectopic pregnancies were found to be due to Chlamydia trachomatis infection(2) (Turner). This entity is potentially life threatening and accounts to 11.79%, 13.5% and 6.86% of cases according to a study conducted by et al ,Bagwan et al, Gon et al and Patel J et al.[3,4,5]).

In a study conducted by Deepti Mahajan et al etopic pregnancy accounted to 10.5% and was the second most common tubal pathology(6).Our study revealed an incidence of 21.6%, predisposing factors being pelvic inflammatory disease and infertility treatment.

Description	No of cases	%
NORMAL	70	28%
CHRONIC SALPINGITIS	83	33.2%
ECTOPIC PREGNANCY	54	21.6%
WALTHARD REST	17	6.8%
SALPINGITIS ISTHMICA NODOSA	3	1.2%
DECIDUOSIS	2	0.8%
HYDROSALPINX	9	3.6%
HEMATOSALPINX	3	1.2%
ACUTE SALPINGITIS	1	0.4%
TUBERCULOUS SALPINGITIS	1	0.4%
XANTHOGRANULOMATOUS SALPINGITIS	1	0.4%
ADRENAL REST	1	0.4%
ENDOMETRIOSIS	3	1.2%
METASTATIC DEPOSIT	2	0.8%

Table 1: Spectrum of lesions in Fallopian tube

Deciduosis of the fallopian tube is ectopic presence of decidua in the tubes seen in the postpartum period and commonly encountred in caesarean sections,postpartum tubal ligations,and in tubal pregnancies. Ectopic deciduosis has been reported in various sites such omentum,ovary ,cervix,cul-de-sac,vagina,diap hr agm,liv er,spleen,lymphnodes,renal pelvis and appendix(7).It is due to the exaggerated response of the endometrium to progesterone. It was observed within the plicae in 2 cases in our study.

Spectrum of Lesions in Fallopian tube
Freq: No of cases

Plots

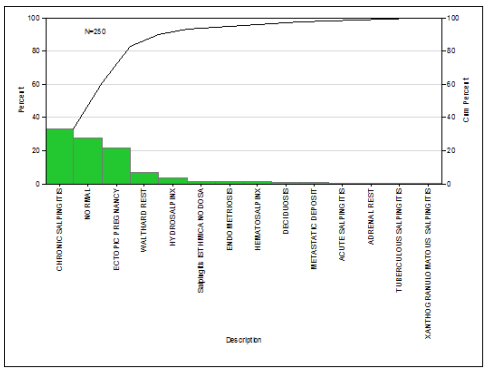


Fig.: Pareto plot of spectrum of Lesions in Fallopian tube

Hunt et al observed that about 3% of cases exhibited decidual reaction in the subserosal aspect and within the plicae in his study (8).Multipotent mesenchymal cells in the stroma of the folds and similar such cells beneath the serosal mesothelium gives rise to the decidual reaction as proposed by Hofbauer(9).Decidual cell involution is characterized by vacoulization of the cytoplasm with flattening and peripheral displacement of the nucleus(10).

Salpingitis is seen commonly in the reproductive age group and is due to ascending infection or via hematogenous route.The most common sequalae is infertility and ectopic pregnancy.According to a study conducted by Brown and Algren,about 15% of ectopic pregnancies occur after the first episode and 50% occur after the third episode of salpingitis.(11,12).

Xanthogranulomatous salpingitis is a rare form of chronic inflammatory condition of the fallopian tube,Only few cases have been reported in English literature.It is found to be associated with pelvic inflammatory disease, endometriosis, ineffective antibiotic therapy,abnormality in lipid metabolism by macrophages and radiotherapy(13,14). Single case of xanthogranulomatous salpingitis was documented in this study. Acute salpingitis accounted to 0.4% and chronic salpingitis to 33.2 % in our study.

Tuberculous salpingitis the great mimicker of advanced ovarian carcinoma was first described by Morgagni in the year 1744(15).Genital tuberculosis is secondary to an extragenital lesion,most commonly from the lung.Primary genital tuberculosis is quite rare,the most common site being, the fallopian tubes accounting to approximately 5%.The earliest change is seen in most commonly in the ampullary region. In 25-50% cases tubes are patent with everted fimbrial end ,while the remaining tubes are found distended and enlarged giving a tobacco –pouch appearance(16).Both fallopian tubes are involved in 100% of cases .Unilateral tuberculosis of the fallopian tube is very rare.

Salpingitis isthmica nodosa,first described by Chiari is a nodular thickening of the proximal fallopian tube with cystically dilated glands surrounded by a muscular layer(17).It accounts to 6-11% and is seen in the age group of 25-60yrs with average age being 30 years .Etiology is unknown,but may be attributed to inflammatory cause or adenomyosis-like process.Other proposed etiological factors are a congenital Wolffian or mesonephric rest,neoplasia,or a sequalae of chronic tubal spasm(18,19). It is most commonly associated with recurrent ectopic pregnancies and infertility(20).

Wathard cell nest, are benign epithelial cell clusters seen commonly in the peri-fallopian tube tissue,but also seen in the mesovariam, mesosalpinx and ovarian hilus..It appears as white to yellowish nodules or cysts measuring less than 2mms.It is a common incidental microscopic finding and appears as well circumscribed solid nests of cuboidal to transitionall cells with coffee bean nuclei.Cystic Walthard rests show eosinophilic secretion within the lumina. About 6.8% of cases were documented in our study.

Endometriosis is the most commonly encountered gynaecological disorder. It was documented in 1.2% of cases in our study.Tubal endometriosis is seen in approximately 10% of tubal specimens and is most commonly seen at the distal end. 1.2% of Haematosalpinx and 3.6% of hydrosalpinx were noted in this study.

An incidental case of adrenal rest was recorded .Ectopic adrenal rest is quite uncommon .It was first described by Morgagni.It appears as a yellowish nodule in the wall of the fallopian tube and is non- functional in majority of cases,though functional adenomas can occur at ectopic sites.(21).

Primary adenocarcinoma of the fallopian tube is uncommon and accounts to 0.14% to 1.8% of female genital malignancies(22,23).It occurs between the fourth and sixth decades of life and is diagnosed based on the presence of any one of the following criteria 1) the main tumor is within the tube and arises from the endosalpinx.2) Transition between the benign and malignant epithelium should be demonstrable if the wall is involved and 3) Microscopically a papillary pattern is discernable.(24). It has been reported in high risk breast-ovarian cancer families with germline BRACA-1 and BRACA -2 mtations(25). Only one case of primary adenocarcinoma of the fallopian tube was recorded in our study.Recently,it has been found that the fimbrial end of the fallopian tube is the site of occurrence of serous tubular intra epithelial carcinoma,high grade serous carcinoma of the ovary and peritoneal serous carcinoma.(26).2 cases of metastatic deposit to fallopian tubes was documented ,one being squamous cell carcinomatous deposit and other being serous carcinomatous deposit of ovary.

V.Conclusion

Fallopian tubes are to be sampled with care so as to detect the spectrum of lesions. Most common lesion was ectopic pregnancy.Rare entities such as xanthogranulomatous salpingitis,adrenal rest and primary adenocarcinoma of the fallopian tube were documented in the study.

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