

Spectrum of histopathological changes in fallopian tubes – a study of 350 cases



Medical Science

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ABSTRACT

OBJECTIVES —To study the histopathological changes lesions encountered in the fallopian tube.

METHODS —Three hundred and fifty fallopian tube specimens over a two year period either from Total abdominal hysterectomy with Bilateral salpingo-oophorectomy, Ligation with/without medical termination of pregnancy, unilateral Salpingectomy or Salpingo-oophorectomy were reviewed thoroughly on the basis of gross and microscopic findings. Data collected were analyzed later.

RESULTS AND CONCLUSION — 27.71% i.e. 97 cases had some tubal pathology, with inflammatory lesions forming the major group(29 cases) of tubal pathologies followed by tubal ectopic pregnancies (24 cases). Salpingitis isthmica nodosa and endometriosis were rare findings. Though the fallopian tubes remain unremarkable in majority of the surgical pathological specimens, it must be subjected for histopathological examination to demonstrate the pathological lesions.

Introduction:

The fallopian tubes are complex structures that represent more than conduits from ovary to endometrial cavity¹. It is a common specimen in a Pathology laboratory and may be examined either alone as a salpingectomy or tubal ligation specimen, or as part of a more complex specimen from a hysterectomy and/or oophorectomy operation². There is a lack of data to describe the frequency of various histological findings in a general surgical pathology practice and only a few attempts have been made to publish the data in the literature. The aim and objectives of this study was to describe the various histopathological findings of fallopian tubes surgically removed as part of total abdominal hysterectomy with or without bilateral salpingo-oophorectomy, tubal ligation with or without medical termination of pregnancy, unilateral salpingectomy and salpingo-oophorectomy.

Materials and methods:

The data was collected retrospectively from the Department of Pathology, Government Medical College, Bhavnagar, between periods of June 2013 and June 2015. All the specimens of Salpingectomy either done for Total abdominal hysterectomy with Bilateral salpingo-oophorectomy, Ligation with/without medical termination of pregnancy, unilateral Salpingectomy or Salpingo-oophorectomy were included in the study. Routinely, at least 2 sections were taken from the fallopian tube if gross pathology was evident; otherwise if the fallopian tube was apparently within normal limits, only one section was taken for processing. Haematoxylin & Eosin stained slides were studied.

Results:

Table: 1 Distribution of cases according to clinical diagnosis

Diagnosis	Number of cases	Incidence
DUB	52	14.85
Fibroid	127	36.28
Ectopic pregnancy	18	5.14
Tubeoovarian mass	7	2.0
Prolapse of uterus	34	9.71
Tuberculosis	1	0.28
Tubectomy	111	31.71
Total	350	100

Three hundred and fifty specimens consisting of varied gynecological lesions were studied thoroughly. In majority of the cases the clinical diagnosis was uterine fibroid (127/ 350) followed by

tubal ligation cases(111/350) (Table 1). Maximum number of cases belonged to the age group of 35 to 45 years, with vaginal bleeding as their most predominant presenting complaint.

Table 2: Distribution of various lesions encountered in the present study

Diagnosis	Number of cases	Incidence
A)Normal	253	72.29
B)Abnormal	97	27.71
Salpingitis		
Acute	9	2.57
Chronic	13	3.71
Acute on chronic	6	1.71
Tuberculosis	1	0.29
Hydrosalpinx	13	3.71
Pyosalpinx	1	0.29
Hematosalpinx	6	1.71
Salpingitis isthmica nodosa	1	0.29
Ectopic pregnancy	24	6.86
Endometriosis	2	0.57
Paratubal cyst	21	6.0

As shown in table 2, in majority of the cases fallopian tubes were unremarkable(72.29%). 27.71% cases showed abnormal histopathological findings, which included salpingitis, ectopic pregnancy, paratubal cyst, hydrosalpinx, hematosalpinx, pyosalpinx, endometriosis & salpingitis isthmica nodosa.

Majority of cases were of salpingitis, constituting 8.29% (29/350) of cases. Chronic infection was present in 13/29 cases, acute infection was seen in 9/29 cases, acute on chronic infection was seen in 6/29 cases while tuberculosis of fallopian tube was seen in 1/29 cases.

Next major group was ectopic pregnancy (Fig 2) which included 6.86% (24/350) cases. All the cases were diagnosed as ectopic pregnancy clinically and radiologically 17/24 cases presented with ruptured fallopian tube.

Paratubal cysts were seen in 6.0% of cases (21/350) as small benign cystic lesions lined by flattened epithelium. Majority of

them occurred in age group 35-45 years.

Hydrosalpinx consisted of 3.71% (13/350) cases. It was found as incidental findings in all the cases which are operated for various other gynecological problems.

Other cases included were hematosalpinx 1.71% (6/350), pyosalpinx 0.29% (1/350), salpingitis isthmica nodosa 0.29% (1/350) and endometriosis (Fig. 1) 0.57% (2/350) cases.

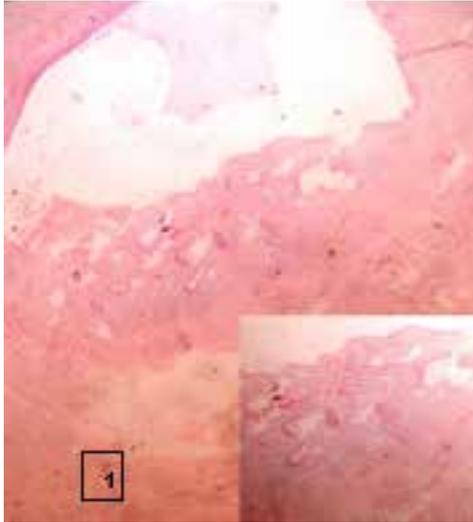


Fig. 1: Endometriosis of Fallopian tube low power view(Inset-High power view)

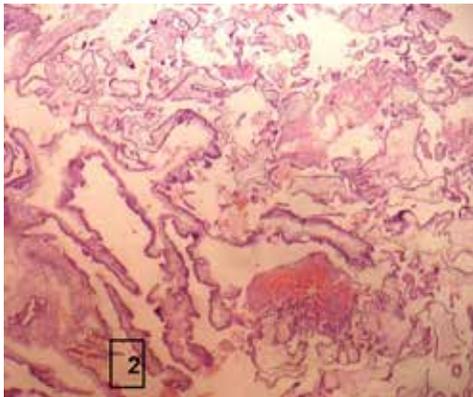


Fig. 2: Tubal(Ectopic) Pregnancy low power view

Discussion:

The fallopian tubes were within normal limits in 72.29% of the cases while the rest (27.71%) revealed some tubal pathological lesion. The most common histopathological finding in the pre-

sent study is salpingitis (8.29%) and all these cases are found incidently on histopathological examination. Bagwan et al also found 33.48% of tubes involved by pathological lesions where inflammatory condition (18.05%) of the tube constituted the major group.³ Patton et al have described it as a 'Silent Salpingitis' where the pathological process is overt salpingitis but without any clinical symptoms.⁴

Salpingitis is inflammation of the fallopian tubes, most commonly caused by sexually transmitted micro-organisms in adolescent and adult women. It is rarely found in sexually inactive girls and generally the result of a blood-borne or genitourinary infection.⁵ Infertility and an increased chance of ectopic pregnancy are the most important long term complications of salpingitis. The rate of infertility is approximately 15% after a first episode of salpingitis and increases to 50% after a third episode.^{6,7}

Tuberculosis of the fallopian tube develops commonly by haematogenous spread of the organism, usually from a primary pulmonary infection and rarely by direct extension from adjacent organs or lymphatic spread from intestinal tuberculosis. Agarwal et al⁸ did a clinicopathologic study of female genital tuberculosis and found the incidence declining from 1.8% in 1974 to 0.8% in 1989 and onwards. They noted the involvement of endometrium in 99.5%, fallopian tubes in 94.7%, cervix in 81.5%, ovaries in 62.5% and vagina in 0.2% cases.

Ectopic pregnancy is a dangerous and potentially life threatening condition and as many as 95% of all ectopic pregnancies occur within the fallopian tubes.⁹ Ampulla was the most common site of ectopic gestation & majority of the cases in the present study presented with ruptured ectopic pregnancy. These findings are similar to those observed by Job Spira et al.¹⁰

Endometriosis is defined as the presence of ectopic endometrial tissue outside the lining of the uterine cavity and is fairly common in childbearing women. Endometriosis frequently involves the tubes in the form of nodules located in the wall or serosa.¹¹ Microscopically, foci of endometriosis were found located within the wall of the tubes in the present case.

Cystic lesions were found in 6.0% of cases (21/350) but did not have clinical significance.

Conclusion:

Though the fallopian tubes remain unremarkable in majority of the surgical pathological specimens, it must be subjected for histopathological examination to demonstrate the pathological lesions and also, it is essential for the pathologist to section the fallopian tubes serially and submit all of the representative tissue for microscopic examination so that the diagnosis of these pathological entities is not missed.

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