

Histopathological Study of Spectrum of Lesions Encountered in the Fallopian Tube

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OBJECTIVES- To study the lesions encountered in the fallopian tube. **METHODS -** Six hundred and eighty seven fallopian tube specimens either sent separately or along with other female genital tract organs were reviewed thoroughly on the basis of gross and microscopic findings. Data collected were analyzed later. **RESULTS AND CONCLUSIONS -** 33.48% cases had some tubal pathology, with inflammatory lesions forming the major group (124 cases) of tubal pathologies followed by tubal ectopic pregnancies (81 cases). Primary carcinoma of the fallopian tube was a rare finding.

Key words: fallopian tube lesions

Introduction

Fallopian tubes are complex structures that represent more than conduits from ovary to endometrial cavity. They are the seats of a variety of interactions that culminate in a normally implanted pregnancy'. Thus, with the exception of a few relatively rare tubal neoplasms which might be life threatening, the significance of pathogenic changes in fallopian tubes is related to the possible effect on fertility. Inflammatory disease of the tube (salpingitis) remains responsible for a significant percentage of cases of secondary sterility by occlusion or stenosis', In many regions of the world, ectopic pregnancy still remains a matter of major concern because of the high number of maternal deaths due to this condition. Hence in this modern era of advancement it has become a necessity to study in details the pathology of various fallopian tube diseases.

Material and Methods

This was a combination retrospective and prospective study of 687 fallopian tube specimens, sent separately or with other female genital tract organs to our surgical pathology section. The study was carried out over a period of 3 years, from January 1999 to December 2002.

The one-year retrospective study consisted of a review of previous clinical records as per age, clinical presentation, gross and microscopic findings, and re-examination of the slides of 239 cases. The remaining 448 cases included in the 2 year prospective study

comprised of 326 specimens of abdominal hysterectomy, 103 of salpingo oophorectomy, 14 of abdominal tubectomy and 5 of laparoscopic tubectomy. All specimens were fixed in 10% formalin after performing gross examination, external and internal, by taking cut sections at various levels as per standard methods. Specimens of suspected ectopic pregnancy were also examined for presence of embryo/placenta, hemorrhage, and rupture (if any) of the fallopian tube. Adequate tissue blocks were made and the sections were stained with hemotoxyline and eosin for light microscopic study.

Results

Six hundred and eighty-seven specimens consisting of varied gynecological lesions were studied thoroughly. In majority of the cases, the clinical diagnosis was uterine fibroid (206/687) or dysfunctional uterine bleeding (DUB) (172/687) (Table I).

Maximum number of cases belonged to the age group of 36 to 45 years, with vaginal bleeding as their most predominant presenting complaint, followed by pain in abdomen. The symptoms related to some tubal pathology. Pain and lump in the abdomen together were present in half of the cases.

Some tubal pathological lesion was seen in 33.48% of the cases (230/687). In the remaining cases, both the fallopian tubes were grossly and microscopically unremarkable (Table II). It is evident that the inflammatory condition of the tube (salpingitis and hydrosalpinx) constituted a major group with an incidence of 18.05% (124/687). Majority of the cases of acute salpingitis occurred in the age group of 15 to 30 years (18/29). Most cases were misdiagnosed as acute appendicitis and on laparotomy were found to have purulent flakes on the tubes (10/29). In the remaining

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Table I. Distribution of cases according to the clinical diagnosis

Clinical diagnosis	No. of Cases	Incidence (%)
DUB	172	25.04
Fibroid	206	30.00
Ectopic Pregnancy	78	11.35
Tubo-ovarian mass	71	10.33
Chronic cervicitis	45	6.55
Prolapse of the uterus	15	2.20
Carcinoma of the cervix	19	2.76
Carcinoma of the endometrium	16	2.33
Infertility	8	1.16
Tuberculosis (Abdominal/genital)	5	0.76
Tubectomy	17	2.47
Others	35	5.15
Total	687	100.00

Table II. Distribution of various tubal lesions encountered in the present study

Sr. No.	Tubal Morphology	No. of Cases	Incidence %
A)	Normal		457 66.52
B)	Abnormal		230 33.48
1.	Salpingitis	70	10.19
	• Acute	18	2.62
	• Chronic	29	4.22
	• Acute on chronic	11	1.60
	• Tuberculosis	04	1.60
	• Others (suture granulomas)	08	1.16
2.	Hydrosalpinx	54	7.86
3.	Pyosalpinx	02	0.29
4.	Hematosalpinx	04	0.58
5.	Salpingitis isthemica nodosa	03	0.73
6.	Ectopic pregnancy	81	11.79
7.	Eendometriosis	01	0.15
8.	Paratubal cysts	34	4.90
9.	Benign epi thelial proliferations	02	0.29
10.	Tumors	03	0.44
	• Benign	00	0.00
	• Malignant	03	0.44
	• Primary	01	0.15
	• Secondary	02	0.29
11.	Walthard cell nests	10	1.45
12.	Torsion of the tube	01	0.15
	Total	687	100

cases, acute salpingitis was observed as an incidental finding in tubes removed along with the uterus (panhysterectomy) for treating varied gynecological disorders. Cases of acute salpingitis showed congestion while those of chronic salpingitis showed presence of fibrous adhesions. Tuberculous salpingitis was suspected on gross examination only in one case out of the five.

The next major group was of tubal ectopic pregnancies with an incidence of 11.79% (81/687), Nine out of 81 cases had some evidence of predisposing conditions like salpingitis, suture granuloma or congenital anomaly of the uterus. Ampulla was the commonest site of ectopic gestation with tubal rupture being the most common outcome in 60% of the cases.

Paratubal cysts (34 cases) were seen as small benign cystic lesions lined by flattened epithelium. Majority of them occurred in the age group of 31 to 45 years.

Malignant lesions of the tube were found only in three cases, two of which were secondary metastatic lesions and one was a primary adenocarcinoma. One case showed metastasis from adenocarcinoma of the ipsilateral ovary while the other case showed presence of tumor emboli of mucin secreting adenocarcinoma in the blood vessels of the fallopian tube, probably originating from the gastrointestinal tract. The primary carcinoma was observed in a postmenopausal patient, presenting with non-specific symptoms like abdominal pain; the diagnosis was not made pre-operatively. The tubal involvement was unilateral and the tumor did not spread beyond the serosa (Stage I). Grossly, the tube was enlarged. Histologically, the tumor was a well to moderately differentiated adenocarcinoma. The other female genital organs were free of the tumor.

Discussion

These 687 cases were reviewed thoroughly. Tubal pathology was noted in only 33.48%. The inflammatory tubal pathology constituted the major bulk of the cases (124 cases). Etiological subtyping of salpingitis was possible in 70 cases, while the remaining 54 cases showed hydrosalpinx, which is usually seen as a sequel of acute salpingitis. Similar findings were noted by others¹, The clinical presentation of these cases was variable. Affirmative diagnosis of tubo-ovarian lesions was made in only 40% of cases, while in the remaining the diagnosis of salpingitis was made after histological examination. Patton et al² have described an entity called "silent salpingitis", where the pathological process is of overt

salpingitis, but without any clinical symptoms. It is possible that in the present study some cases of salpingitis might have remained clinically silent and were diagnosed as incidental finding on histopathological examination.

Tuberculous salpingitis was seen in five cases. One case of tuberculous salpingitis was associated with adenomatous hyperplasia of the tubal lining. Moore and Entertine³ state that finding of such a lesion in the tube should suggest a search for tuberculosis. Infertility was observed in association with acute, chronic and tuberculous salpingitis highlighting the possible role of inflammatory tubal pathology in causing tubal block and hence infertility. Urman et al⁴ share a similar experience.

Salpingitis isthmica nodosa was seen only in five cases. In one case it was associated with ectopic pregnancy of the tube possibly acting as a risk factor for the same. Similar findings were noted by Majmudar et al⁵. Endometriosis of the fallopian tube was seen only in one case which presented with chief complaint of severe pelvic pain, but hemoperitoneum was not noted.

The next major group was formed by tubal ectopic pregnancies, constituting 11.79% (87/687) of the tubal pathology (Table II). Ampulla was the commonest site for ectopic gestation, with rupture being the most common outcome. These findings were similar to those observed by [ob-Spira et al⁶], Inflammatory predisposing factors were noted only in eight cases of ectopic gestation and one case was associated with unicornuate uterus with a rudimentary horn, thus acting as a potential risk factor. In only 78 of the 81 cases the ectopic pregnancy was diagnosed clinically.

Cystic lesions of the tube though commonly seen, did not have much clinical significance. Primary adenocarcinoma of the fallopian tube, was found as a rare lesion in one postmenopausal woman presenting with nonspecific symptoms like abdominal pain. Similar experience is shared by others⁷. Majority of the patients with fallopian tube carcinoma present with stage I disease at diagnosis, but their survival probability is low compared with that of other early stage gynecological malignancies⁸. We had two cases of secondary metastatic lesions. Metastases to the tube usually come from ovarian adenocarcinoma, followed by endometrial or cervical adenocarcinoma-s, Tubal metastases usually indicate poor prognosis regardless of the site of primary tumor⁹. Findings in the present study were in accordance with studies by various authors.

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