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"SPECTRUM OF HISTOPATHOLOGICAL CHANGES OF FALLOPIAN TUBES AND ITS POSSIBLE RELATION TO THE STATE OF UTERUS AND OVARIES IN SURGICALLY REMOVED SPECIMENS" – A TWO YEAR STUDY IN A TERTIARY CARE HOSPITAL.

Pathology

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ABSTRACT

Background: The fallopian tube functions as an anatomic and physiologic link between the ovary and the uterus in reproduction by ensuring efficient and orderly ovum transport and providing a proper environment in which fertilization occurs. Not much studies has been done about the lesions of fallopian tube and its relation to the lesions of uterus and ovaries **Objectives:** To study the various histopathological lesions of uterus, ovaries and fallopian tubes. To correlate the possible relation of the lesions in the uterus and the ovaries to the changes in the fallopian tubes. **Materials And Methods:** This study was carried out in the department of Pathology, Regional Institute of Medical Sciences, Imphal, Manipur, India . A total of 80(Eighty) specimens of total abdominal hysterectomy with bilateral salpingoophorectomy from patients who underwent surgery in the Obstetrics and Gynecology department of Regional Institute of Medical Sciences Hospital were obtained for study for a duration of 2 years starting from May 2015 to April 2017. **Results:** Majority of cases were with a clinical diagnosis of uterine fibroid followed by chronic cervicitis and DUB. The incidence of tubal lesion was 18.75% and tubes with normal findings comprised 88.75%. **Conclusion** It is well appreciated that the conditions involving the fallopian tube are frequently non neoplastic pathologic conditions like ectopic pregnancy, acute and chronic salpingitis in contrast to the neoplastic conditions.

KEYWORDS

Fallopian tubes, Uterus, Ovaries, Histopathology.

INTRODUCTION

Fallopian tubes are complex structures that represents more than conduits from ovary to endometrial cavity. They are seats of a variety of interactions that culminates in a normally implanted pregnancy. Thus with the exception of few rare tubal neoplasm which might be life threatening, the significance of pathogenic changes in the fallopian tube is related to possible effect on fertility. Inflammatory disease of tube (Salpingitis) remain responsible for a significant percentage of cases of secondary sterility by occlusion or stenosis[2]. It is the organ most commonly affected by tuberculosis in the female genital tract leading to infertility but is relatively rare in developed countries[3]. Like the endometrium and endocervix, transitional cell, squamous and mucinous metaplasia have been described in the tubes, and mucinous metaplasia may occur in patients with Peutz-Jehgers syndrome[4]. Several studies however have shown an association of tubal hyperplasia with ovarian serous borderline tumours[5]. The most common primary lesion of fallopian tube excluding endometriosis is paratubal cyst. Tumours of fallopian tube are uncommon. Benign tumours include adenomatoid tumours which occurs subserously on the tube or sometimes in the mesosalpinx[6]. Primary adenocarcinoma presents with a dominant tubal and mucosal involvement[7]. The objectives of the study were :

1 To study the various histopathological lesions of uterus, ovaries and fallopian tubes.
2 To correlate the possible relation of the lesions in the uterus and the ovaries to the changes in the fallopian tubes.

MATERIALS AND METHODS

This study was carried out in the department of Pathology, Regional Institute of Medical Sciences, Imphal, Manipur, India A total of 80(Eighty) specimens of total abdominal hysterectomy with bilateral salpingoophorectomy from patients who underwent surgery in the Obstetrics and Gynecology department of Regional Institute of Medical Sciences Hospital were obtained for study for a duration of 2 years starting from May 2015 to April 2017.

Inclusion Criteria:

All hysterectomy with bilateral salpingo-oophorectomy or unilateral oophorectomy specimens.

Exclusion Criteria:

Known cases of primary diseases of fallopian tubes with hysterectomy and unilateral salpingo-oophorectomy with hysterectomy.

RESULTS

Table 1 Age distribution of the cases studied.

Observation	Frequency	Percentage
20-30 yrs	2	2.5
31-40yrs	24	30.0
41-50yrs	42	52.5
51-60yrs	10	12.5
61-70yrs	2	2.5
		100.0

As showed in table 1, the maximum number of cases were in the 4 th and 5 th decade (52.5 %). .

Table- 2 Distributions according to histopathological diagnosis

Cases	Frequency	Percentage(%)
Chronic cervicitis	18	22.5%
Adenomyosis with Leiomyoma	5	6.25%
Leiomyoma	20	25%
Adenomyosis with Endometriosis	1	1.2%
Adenomyosis with Paraovarian Cysts	1	1.2%
Leiomyoma with Chronic Salpingitis	3	3.7%
Adenomyosis	14	17.5%
Cervical Erosion	1	1.2%
Proliferative Endometrium	5	6.2%
Chronic cervicitis with Serous Cystadenoma	4	5%
Chronic cervicitis with Paratubal Cyst	2	2.5%
Leiomyoma with paraovarian Cyst	1	1.2%
Adenomyosis with adenomatoid tumour	2	2.5%
Endometrial Hyperplasia with Atypia	1	1.2%
Inflammatory polyp	1	1.2%
Adenomyosis with H. Cyst of Morgagni	1	1.2%
Total	80	100.0

Uterine fibroid is the commonest diagnosis seen in 25% cases fallowed by Chronic cervicitis (22.5%) and Adenomyosis (17.5%).

Table 3 : Showing various lesions of fallopian Tube

Histo Diagnosis	No of cases	Average age	Incidence
Chronic salphingitis	3	42	3.75 %
Endometriosis	1	47	1.25%
Paratubal cyst	4	42.5	5%
Hydatid cyst of morgagni	4	46	5%
Simole cyst	1	32	1.25%
Ademato id tumour	1	47	1.25%
Metastatic carcinoma	1	55	1.25%

The Paratubal Cysts and Hydatid Cysts of Morgagni comprised maximum number of cases with 5% each followed by Chronic Salpingitis with 3.75% while rest of fallopian tubes showed normal findings with 88.75%.

Table - 4 Showing the stromal and architectural alterations.

Changes	Frequency	% n=80
Fibrosis	7	8.80%
Intramuscular oedema	8	10%
Cellular luminal contents	5	6.25%
Walthard nests	1	1.25%
Inclusion Cyst	4	5%
Decidualisation	1	1.25%
Metastatic Ca	1	1.25%
None	53	66.25%

This table shows the stromal and Architectural changes in the fallopian tubes. Maximum number of cases showed intramuscular oedema in 10%, followed by stromal fibrosis in 8.80% .

Table 5 – Table showing epithelial changes

Observation	Frequency	Percentage
Stratification	3	3.8%
Vacuolization	1	1.25%
Metaplasia	1	1.25%
None	75	93.75%
Total	80	100.0

This table shows frequency of epithelial changes in the Fallopian tube where epithelial stratification was seen in 3.8% , followed by Vacuolization in 1.25% and metaplasia in 1.25%.

Table 6: Relationship of Ovarian pathology with Chronic Salpingitis

Observations	Total Fallopian Tubes	Tubes with Salpingitis	% of Salpingitis
With Ovarian Pathology	10	2	20
Without Ovarian Pathology	70	1	1.42

Ovarian Pathology was found to be associated with Salpingitis in 20% cases while salpingitis was seen in 1.42 % cases without ovarian pathology.

Table 7 : Showing relation of Tubal Lesions with Uterine Pathology

Observation in Fallopian Tube	With Leiomyoma(n=30)	Without Leiomyoma(n=50)
Chronic Salpingitis	10%	0
Endometriosis	0	2%
Hydatids of Morgagni	6.60%	6.60%

Out of 30 cases of Leiomyoma , association of chronic salpingitis was noted in 10%. 50 cases of Uterus had diagnosis other than Leiomyoma and no cases of chronic Salpingitis was seen in these cases.

Table 8 : Showing findings related to ovarian pathology

Observations on fallopian tube	With serous ovarian tumour	Without serous ovarian tumour	Incidence(%)
Fibrosis	2	5	8.75
Intramuscular oedema	1	2	3.75
Epithelial proliferation	3	0	3.75

3 cases of epithelial proliferation was seen to be associated with the serous ovarian tumour while 2 were seen in cases without serous tumour. Fibrosis was more common in cases without serous ovarian tumour.

V. DISCUSSION

The present study comprised of specimens received from wide range of age group youngest patient being 67 years. The mean age at presentation was 45.36 years and similar to the study done by Hunt JL et al[8]. Maximum number of cases belonged to para 3(33.8%) followed by para 2 and 3 with 22.5% each and lowest was seen in para 7 with 1.25% and maximum cases of leiomyoma was seen in para 3(44%), followed by para 0 and 1 with 16% each. But in a study by Mohmmad A et al[9], higher incidence of leiomyoma in nulliparous women (60.6%) followed by 14.1% in para 1-2 was found.

The maximum numbers of cases (35%) were with a clinical diagnosis of uterine fibroid followed by chronic cervicitis with 6.55% and DUB 8.75% which was similar to the study conducted by Bagwan IN et al[2]. All the findings in the uterus were of benign lesions (100%) where leiomyoma made up maximum number of cases 30(37%) followed by adenomyosis with 20(25%),similar to the study conducted by Parveen S et al[10]. The most frequent finding in ovary was the benign surface epithelial tumour where serous cyst adenoma constituted the maximum number of cases with 5% followed by dermoid cyst with 2.5% and these findings were similar to the findings of Khan AA et al[11] and Swami GG et al[12].

The incidence of tubal lesions in the present study was 18.75% and tubes with normal findings comprised 88.75%. These findings differed from study carried out by Bagwan et al[2] where the incidence of tubal findings were 33.48% and normal findings were seen in 66.52% of specimens. Primary carcinoma of fallopian tube is a rare gynecological lesion. This has prompted reports of individual cases rather than publications in large series. The present study could not find any case of primary tubal carcinoma which is comparable to study done by Bagwan IN et al[2] who also reported incidence of 0.15% only. The incidence of fibrosis was 8.80% and most commonly in the age group 41-50 years with an average of presentation at 45.5 years which is similar to the study done by Hunt JL et al[8] where the average age of presentation with fibrosis was 42 years although the incidence was higher with 35.5%. Fibrosis was an age related findings in the present study.

The incidence of epithelial changes in the form of epithelial hyperplasia or stratification in the fallopian tube in the present study was 3.8% of the cases and is comparable with the findings of Hunt JL et al[8] where the incidence was 3.5%. In the present study, lymphoid follicle was found in 1.25% of the cases and is similar to the study done by Hunt JL et al[8] where the 2.1% of the specimens showed the presence of lymphoid follicle. The present study attempted to find out the relationship of the chronic salpingitis with ovarian pathology and found the incidence of chronic salpingitis associated with ovarian pathology higher (20%) where maximum lesion in the ovary was serous cyst adenoma in comparison to the chronic salpingitis without ovarian pathology (1.42%) which is comparable to study of Siedman et al[13].

Stern J[14] found benign tubal hyperplasia in one fallopian tube out of four cases of benign ovarian tumour. All these studies however highlight the association of the mucosal epithelial proliferation with serous epithelial tumour of the ovary like the present study. Piek MJ et al[15] in a study of women with predisposition to ovarian cancer found 5 out of 12 women with hyperplastic lesions in the fallopian tubes which further supports the observation in the current study.

VI. CONCLUSION

It is well appreciated that the conditions involving the fallopian tube are frequently non neoplastic pathologic conditions like acute and chronic salpingitis and ectopic pregnancy prompting medical attention in contrast to the neoplastic conditions which is very rare in the fallopian tubes although the fallopian tube can be the cause of a significant proportion of infertility. This study provides a comprehensive analysis of the histological patterns of the fallopian tube which in turns may help in diagnosis of various lesions in future.

VII. REFERENCES

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