

# A Case Study of Histopathological Findings in Ectopic Tubal Pregnancies with Statistical Analysis in A Tertiary Care Center

R. Uma<sup>1</sup>, O. A. Meharaj Banu<sup>2</sup>

<sup>1</sup>Associate Professor, Department of Pathology, Government Thiruvarur Medical College, Thiruvarur, Tamil Nadu, India.

<sup>2</sup>Associate Professor, Department of Pathology, Government Thiruvarur Medical College, Thiruvarur, Tamil Nadu, India.

Received Date: 2/01/2023

Acceptance Date: 28/02/2023

## Abstract

**Background:** Extrauterine implantation of embryo leads to ectopic pregnancy sites include fallopian tube, ovary, the common site is fallopian tube. **Aim:** Analysis of histopathological changes in ectopic pregnancies in fallopian tube and statistical analysis with fallopian tubes received after sterilization procedure. **Materials and Methods:** It is a comparative statistical study of ectopic pregnancy and fallopian tubes received after sterilisation procedure **Results:** Out of 352 cases of Fallopian tubes received 35 cases were ectopic and 317 cases were fallopian tubes after sterilisation showing pregnancy related histopathological changes. Of 35 ectopic cases, 30% cases show acute salpingitis, 7% - salpingitis isthmica nodosa, 63 % - chronic salpingitis.

**Corresponding Author:** Dr. R. Uma, Associate Professor, Department of Pathology, Government Thiruvarur Medical College, Thiruvarur, Tamil Nadu, India.

**Email:** [umamd.path@gmail.com](mailto:umamd.path@gmail.com)

## Introduction

Extrauterine implantation of embryo leads to ectopic pregnancy, sites include fallopian tube, ovary, the common site is fallopian tube 95%. other sites include **2.4 % - interstitial, 11.1% - fimbrial, 12 % - ampullary, 4.5 % - extratubal, 3.2 % - ovarian, 1.3 % - abdominal-cervix, liver, spleen, prior caesarean scars [1]. Pathophysiology: 4** possible mechanism of ectopic implantation include 1. anatomic obstruction preventing passage of the zygote, 2. abnormal conceptus, 3. tubal motility abnormalities, 4. zygote transperitoneal migration. The risk factors associated with ectopic pregnancies varies and includes pelvic inflammatory diseases, previous pelvic or abdominal surgeries and IUCD [3].

## Methodology

The study was conducted from Oct2022-Mar2023, in department of pathology, Govt Thiruvarur medical college, Thiruvarur, Tamilnadu, India. A cross sectional study was taken up to study the pathological changes in fallopian tubes and they were later compared with specimens of fallopian tubes obtained after permanent sterilization procedures. A total of 352 fallopian tubes, 35 cases diagnosed clinically as ectopic pregnancies and 317 cases of sterilization procedure specimens were taken. The routine grossing procedure and hematoxylin and eosin-stained sections were prepared from the specimens submitted and examined.

## Results

The Most Common incidence of ectopic pregnancy are seen in age group of 20-30yrs which was 48.6%, followed by age group of >30 years (31.4%) and <20 years (20%).

**Table 1: Age of study population**

Age	Number	Percentage
<20 yrs	7	20%
>30 yrs	11	31.4%
20-30 yrs	17	48.6%
Total	35	100%

Out of 35 cases, 65% were multigravida and only 35 % were primigravida among the study population

The most common anatomical site was in ampullary region of fallopian tube with frequency of 70%.12 are observed in Cornua. 10% in Isthmus and 8% in Fimbrial, as illustrated in table 2.

**Table 2: Site of ectopic.**

Site of ectopic	Percentage	No
Ampulla	70%	25
Cornual	12%	4
Isthmus	10%	3
Fimbrial	8%	3
<b>Total</b>	<b>100%</b>	<b>35</b>

Histopathological findings observed in patients of ectopic pregnancy mentioned in table 3

**Table 3: Histopathological findings**

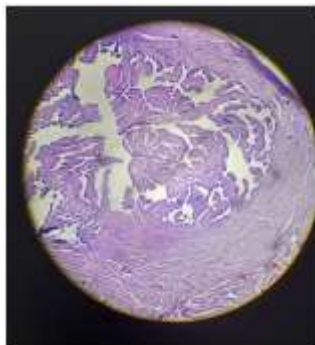
Condition	Number of patients	Percentage
Chronic Salingitis	22	63%
Salpingitis Isthmica Nodosa	3	7%
Acute salpingitis	10	30%
Total	35	100%

Location of ectopic pregnancy - Right sided ectopic 22 cases and left sided were 13 cases, as shown in table 4

**Table 4: Location of ectopic pregnancy**

Sr. no	Location	Number of cases
1	Right side	22(62%)
2	Left Side	13(38%)

In Control group of 317 fallopian tubes obtained from permanent sterilization procedure no pathological changes were observed



**Figure 1: Normal histology of fallopian tube received from puerperal sterilisation**



**Figure 2: Placental villi inside lumen of fallopian tube**

### Discussion

Ectopic pregnancy is the complication of pregnancy where embryo implants outside the uterine cavity. Most of the cases were observed between the age of 20-30 i.e. 48.6 % in our study and it is correlating with other studies [5, 13].

Right fallopian tube [22 cases] 62 % has high occurrence rate of ectopic than in left tube (13 cases) 38%. Our study is in concordance with other studies [5 & 7].

Histopathological examination studies of fallopian tubes shows chorionic villi trophoblastic cells, fibrinoid necrosis, and immature foetal tissue with areas of haemorrhage. There is also infiltration of lymphocytes and plasma cells into muscularis diagnosing as chronic salpingitis. Present study showed 22 patients of chronic salpingitis i.e, 63 %. Chronic salpingitis is the most common predisposing condition leading to tubal pregnancy [5,8] Ectopic pregnancy in our study are closely associated with chronic salpingitis (22 cases) 63 % and are correlating with other studies [5,9].

The other histopathological abnormality was neutrophilic infiltrates in muscular layers and classifying as acute salpingitis , 10 cases (30% } were recorded. Mohd et al reported acute salpingitis in 34.78% cases.

There were 3 cases (7 %) of Salpingitis isthmica nodosa. SIN is a known etiological factor for ectopic pregnancy. It is a well described pathological lesion of unknown etiology [10]. Chlamydia trichomatis [7] and mycoplasma infections s are the commonest causes of pelvic infection.

One of the important causative agent causing PID is tuberculosis in India. In India incidence of genital tuberculosis is high.

India ha to 9.4 million cases globally in year 2009 [11]. In India 2 million cases develops genital tuberculosis [11].

The commonest site for ectopic pregnancy in fallopian tube is ampullary portion [12]. 70% of the cases were observed in ampullary region of fallopian tube, 8 % are observed in fimbrial, cornua 12% and isthmus 10%.

The fallopian tube specimens that are obtained after permanent sterilization process did not show any pathological changes. It clearly implies that ectopic pregnancy is associated with pathological conditions like Salpingitis both acute and chronic etc. Adequate treatment with early diagnosis can prevent ectopic pregnancies in such cases.

### Conclusion

Chronic pelvic infection remains highly associated incidence for ectopic pregnancy. Early recognition of sign and symptoms of PID with adequate antibiotics treatments can prevent ectopic pregnancy. Early diagnosis helps in reducing morbidity and mortality associated with ectopic pregnancy.

### Reference

1. J Bouyer Et Al, Sites Of Ectopic Pregnancy- A 10 Year Population Based Study Of 1800 Cases, *Human Reprod* 2002 Dec
2. Weiming Tang Et Al – Pregnancy and Fertility Related Adverse Outcomes Associated with C. Trachomatis Infection, A Global Systematic Review And Meta analysis
3. Karaer A, Filiz AA, Batioglu S. Risk Factors for ectopic pregnancy. A case- control study. *Aus NZ Obstet Gynaecol.* 2006; 46:521-7.
4. Turner C, Horner P. British Fertility Society Guidelines for practice. *Hum Fertil (Camb).* 2010; 13:115-25
5. Mohd Irshad Ahmed & Zeenath Begum / A Study on Histopathological Findings in Ectopic Tubal Pregnancies and Evaluation of Associated Risk Factors
6. Kamwendo F, Forslin L, Bodin L, Danielsson D. Epidemiology of ectopic pregnancy during a 28 year period and the role of pelvic inflammatory disease. *Sex Transm Infect* 2000;76:28-32.
7. Brenner PF, Roy S, Mishell DR Jr. Ectopic pregnancy. A study of 300 consecutive surgically treated cases. *JAMA* 1980;243:673-6.
8. Lehner R Kucera E, Jirecek S, et al. Ectopic Pregnancy. *Arch Gynecol Obstetr* 2000; 263(3) :87-92.
9. Pendyala Sujata, Basanta Kumar Pati, Gangadhar Sahoo et al. Ectopic Pregnancy -A Five Year Review. *Indian Journal of Perinatology and Reproductive Biology.* 2014;04(02):21-4.
10. Jenkins CS, Willams SR, Schmidt GE. Salpingitis Isthmica nodosa: A review of literature, discussion of clinical significance, and consideration of patient management of fertil steril 1993; 60:599-607.
11. Egger M, Low N, Smith GD, Lindblom B, Herrmann B. Screening for chlamydial infections and the risk of ectopic pregnancy in a county in Sweden: Ecological analysis. *BMJ* 1998;316:1776-80.
12. Kumtepe Y, Borekci B, PolatP, CetinkayaK,Kadanali S .The rarest form of ectopic pregnancy; Intramural ectopic pregnancy and medical treatment.*Turkish German Gynaecol.*2007; 8:416-9.
13. Panchal D, Vasihanav G, Solanki K. Study of management inpatient with ectopic pregnancy.*National journal of Integrated Research in Medicine*2011;2(3):91-4.