ORIGINAL ARTICLE

A Retrospective Clinicopathological Study of Tubal Ectopic Gestation and its Associated Risk Factors in a Tertiary Care Hospital

Ameet Kaur, Anu Gupta, Jyotsna Suri

Abstract

Background: Ectopic gestation is an obstetric emergency with high morbidity and mortality. Most common site is fallopian tube.The potential threat for rupture and haemorrhage always exists and it remains a great mimic of other acute abdominal conditions. **Aim and Objectives:** To identify common risk factors, presenting symptoms,study various sites of tubal gestation and analyse the histopathological findings. **Material and Methods:** This is a one-year retrospective study done in department of Pathology Govt. Medical College, Jammu from 1st Jan 2020 to 31st Dec 2021. All the salpingectomy specimens for clinically diagnosed cases of tubal ectopic gestation were included in the study and analysed **Results:** Present study included 74 cases. The commonest age group affected was 21-30 years (62.16%) and majority were multiparous women (72.97%). The major risk factors were PID (43.24%) followed by non-identifiablerisk factors and abortions/D&C in equal number of (13.51%) cases.Tubal ectopic gestation was the commonest site with predominance in ampulla (86.48%). 40 cases (54.05%) presented as ruptured ectopic. Haemorrhage and vascular congestion were main histopathological finding in all 74 cases with accompanying chronic salpingitis in 40 cases (54.05%). **Conclusion:** Early diagnosis,timely intervention and prevention of tubal ectopic gestation reduces maternal morbidity and mortality.

Keywords

Ectopic Pregnancy (EP), Tubal, PID(pelvic inflammatory diseases).

Introduction

Ectopic pregnancy occurs when fetal tissue implants outside the uterus.It is derived from the Greek word 'Ektopos' meaning out of place.[1] It carries a high rate of morbidity and mortality when not recognized and treated promptly,thus a high index of suspicion for an ectopic in the pregnant patient is required as they may present with pain,vaginal bleeding or more vague symptoms.Ectopic implantation can occur in the cervix,uterine cornu,myometrium,ovaries,abdominal cavity etc.[2] Damage to the fallopian tube secondary to inflammation or in women with tubal ligation or post-surgical alterations to the tube induces tubal dysfunction.Smoking,pelvic inflammatory diseases(PID) and hormonal variations throughout the menstrual cycle additionally have demonstrated effects on cilia beat frequency.[3]The histopathological examination of ectopic pregnancy specimens serves two purposes; it confirms the diagnosis of ectopic pregnancy(EP) and also aids in the diagnosis of other findings predisposing to EP like chronic salpingitis, salpingitisisthimicanodosa etc.

Department of Pathology, Government Medical College, Jammu, Jammu & Kashmir, India.

Correspondence to: Dr Anu Gupta , Assistant Professor, Department of Pathology, Government Medical College, Jammu, Jammu& Kashmir, India.

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Materials and Methods

This is a one-year retrospective study conducted between 1st Jan 2020 to 31st Dec 2021 in the Departmentof Pathology Government Medical College, Jammu encompassing 74cases of ectopic tubal pregnancy.Relevant history regarding the presenting symptoms, age,any prior history of surgical intervention along with histology slides were meticulously re-examined for detailed analysis.

Results

Our study included 74 ectopic pregnancy cases.The commonest age group affected was between 21-30 years(62.16%) followed by 31-40 years(27.02%)

Ectopic pregnancy cases in primigravida were 20(27.02%) and that among multiparous were (72.97%).

Majority of patients presented with clinical presentation of pain abdomen(54.05%)followed PID was found to be the major cause for ectopic pregnancy among 32 patients (43.24%) followed by 10 cases(13.51%)each with either no history or history of dilatation & curettage/ abortion.Ectopic pregnancy in patients with previous history of ectopic and who had undergone infertility treatment and history of infertility were 9.45%. by bleeding pervaginum (33.78%).

The commonest site within the tube was ampulla(86.48%) with 5 cases(6.75%) in fimbrial end,4 in interstitium and 1 case in ovary. Out of total 74 cases (54.05%) i.e. 40 cases presented as ruptured ectopic and in rest 34(45.94%) cases the sac was intact.

The histopathological examination of sections of ectopic pregnancy showed dilatation of tube,plical fusion with presence of numerous chorionic villiand variable trophoblastic proliferation.Tubal haemorrhage and vascular congestion were evident in all the cases(100%) with accompanying chronic salpingitis in 40 cases(54.05%).The acute on chronic inflammatory infiltrate extended to parametriumand serosa in 32(43.24%)cases thus constituting PID. In 5 cases(6.75%)a presumptive diagnosis of tubal pregnancy was rendered on the basis of presence of decidual tissue in the wall of the tube with accompanying haemorrhage in an appropriate clinical setting.

Discussion

Ectopic pregnancy is a well-recognized life threatening emergency in pregnancy.The estimated rate of ectopic pregnancy in the general population is 1 to 2% and 2 to 5 % among patients who utilized assisted reproductive technology.[3]Incidence of ectopic pregnancy has increased over the last 20 years.[4]This may be due to increased frequency of tubal infections,tubal operations and early detection with better facilities available for diagnosis.In our study majority of cases were seen in age group of 21-30 years(62.16%) similar to findings of Tahmina S[5],Panchal *et al* [6] and Sudha *et al*.[7]The reason may be accounted to the maximum fertile period in a women's life,however maternal age is not an independent risk factor for ectopic.[1] The classic triad of ectopic pregnancy is abdominal pain,pervaginum discharge and amenorrhoea.In majority of studies in English literature the triad of symptoms varied from 28-95%. [8] In this study maximum patient's presented with pain abdomen.Yadav DP *et al* [9] and Shagufta *et al* [10] also reported maximum cases with pain abdomen. However,not all ectopic pregnancies manifest with pain abdomen. Nausea/vomiting,syncope,lightheadedness and vaginal bleeding also merit consideration for the possibility of ectopic.

In the study done by ShettyK *et al* [11] and Yadav DP *et al*[9] maximum patients were multiparous very similar to findings in our study where 72.97% cases were multiparous.

PID remains the major causative factor for ectopic pregnancy as was also seen in present study with 43.24% cases,similar to the studies of Sadia *et al* [12],Divyesh *et al*[13] and Yadav *et al*.[9] Mehra *et al* [14] however reported previous abortions as the most common risk factor.

Women with prior ectopic pregnancy have up to ten times risk compared to general population.[15]The risk of developing a heterotopic pregnancy has been estimated to be as high as 1 :100 in women seeking in vitro fertilization.[3]

The present study had maximum number of ruptured specimens(54.05%) similar to that of Qudsia *et al*[16] and Beyaril C.[4]Tubal rupture is a consequence of haemorrhagic necrosis of the tubal wall.Implantation in cases of tubal ectopic occurs most commonly in ampulla as was seen in our study with(86.48%)cases and other studies by Sindura M *et al*[17] and Mufti S.[18]Other sites were fimbrial end(6.75%),interstitium(5.40%) and ovary(1.35%) in our study.Reports also exist of implantation sites in omental,retroperitoneal,splenic and hepatic locations.[15]

Tubal haemorrhage and congestion is an invariable accompaniment of tubal ectopic pregnancy and results

Table no 1: Distribution of patients according to age.

Age group (Years)	No. of cases	Percentage (%)
<20	2	2.70
21-30	46	62.16
31-40	20	27.02
41-50	6	8.10

Table 2: Clinical presentation of cases of ectopic pregnancy.

Symptoms	No of cases	Percentage (%)
Asymptomatic	5	6.75
Pain abdomen	40	54.05
Bleeding per vaginum	25	33.78
Nausea and vomiting	4	5.40

Table 3: Risk factors for ectopic pregnancy.

Risk factors	Number of cases	Percentage (%)
PID	32	43.24
Previous tubal surgeries	05	6.75
Previous ectopic pregnancy	07	9.45
Intrauterinecontraceptive device use (IUCD)	03	4.05
Infertility and treatment	07	9.45
None(Non identifiable)	10	13.51
Abortions/D&C	10	13.51

Table 4: Site wise distribution of cases.

Site	No of cases	Percentage (%)
Ampulla	64	86.48
Fimbrial end	05	6.75
Interstitium	04	5.40
Ovary	01	1.35

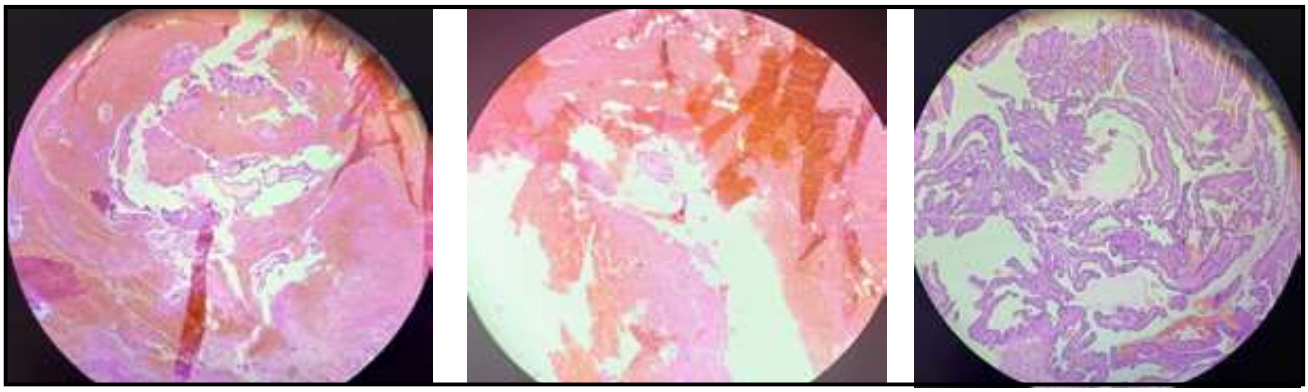

Fig 1. Haemorrhage and vascular congestion along with chorionic villi in a case of tubal ectopic.Fig 2. Marked hemorrhage with an occassional chorionic villi seen.Fig 3. Fallopian tube showing dilatation and plical fusion at places in a ectopic pregnancy.

from destructive invasion of the trobhoblast in the vessels and muscle of the tubal wall.In our study all 74 cases showed haemorrhage and congestion.Tubal rupture can also occur and this may result in severe intra-abdominal haemorrhage.Rupture may result in brisk reactive proliferation of mesothelium with formation of papillae

and psommama bodies. The necrotic trobhoblastic tissue may be retained for long time and appear as hyalinized ghost outlines of chorionic villi.

Tubal pregnancy is often the consequence of chronic salpingitis seen in 40 cases (54.05%) in this study.It leads to inflammatory destruction of the lining folds and retention of ovum. High levels of trophinin,tastin and bystin are expressed in trophoblast and fallopian tube epithelia in cases of tubal pregnancy,a fact of possible pathogenetic significance.[19]

In the presence of large hematosalpinx it may be difficult to identify the products of conception so numerous blocks from the intratubal blood clot should be taken as was done in 5 cases in this study.

The usual treatment for tubal pregnancy is salpingectomy.Surgical management should be guided by clinical status,extent of fallopian tube compromise and desire for future fertility.[3]

Conclusion

Ectopic pregnancies carry high rates of morbidity and mortality if not recognised and treated promptly.Histopathology plays a crucial role in confirming the ectopics and identification of risk factors especially PID. It must be considered in the differential diagnosis of acute abdomen especially in women of reproductive age group.

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Conflicts of Interest

There are no conflicts of interest.

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