

A Study of Histopathological Changes in Fallopian Tubes in Ectopic Pregnancies- A Hospital Based Study

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Conflicts of Interest: Nil.

Abstract

Introduction-Ectopic pregnancy is the term applied to implantation of fetus in any site other than the normal intrauterine location. The most common site is fallopian tube. This study was done in department of pathology of GMC Jammu over a period of one year retrospectively to study the histopathological changes in fallopian tube in 50 cases of ectopic pregnancy.

Result- During the study period 50 cases (4.5%) of ectopic pregnancy was seen. All were tubal pregnancy. Cases of ruptured tubal pregnancy were more than unruptured tubal pregnancy. Right tube involvement was more than left fallopian tube. Majority of these were seen involving ampullary region. Maximum number of cases were seen at 6 weeks of gestation and were seen in multiparous women. Maximum number of cases was seen between 26 to 30 years of age. Chorionic villi were found to be more in number with more extensive invasion till the serosa in ruptured pregnancies as compared to unruptured tubal pregnancies. Chronic salpingitis was the commonest associated pathology seen. Abdominal pain was the commonest clinical feature seen.

Conclusion- Fallopian tube is predominantly involved in ectopic gestation with Ampullary region being involved commonly. Chorionic villi invade extensively with much more thinning of serosal and subserosal layer in ruptured ectopic as compared to unruptured ectopic pregnancies.

Keywords- Ectopic, Ruptured, Tubal, Chorionic Villi.

Introduction

Ectopic pregnancy is the term applied to implantation of fetus in any site other than the normal intrauterine location. The most common site is fallopian tube. Other sites include ovary, abdominal cavity and intrauterine portion of the fallopian tube (cornual pregnancy) (1). The incidence of tubal pregnancy has increased. The reasons are increased prevalence of pelvic inflammatory disease, tubal plastic operations, ovulation induction and IUD use. The incidence varies from 1 in 300 to 1 in 150 pregnancies. Because of unfavourable environment, early interruption of pregnancy is inevitable within 6-8 weeks. Tubal pregnancy has been seen to abort by tubal rupture or tubal abortion (2).

Aim – To study the histopathological changes in fallopian tube in ectopic pregnancy.

Material and Method- It was a 1 year study done retrospectively from July 2016 to June 2017. It was conducted in histopathology section of pathology department of GMC Jammu. Retrospective analysis of all cases with tubal ectopic pregnancy, whose specimens were received in the department, was done. All data, maintained in the histopathology section were retrieved and reviewed. Histology slides of all cases were reviewed for the presence of chorionic villi to confirm the diagnosis and to study associated any other pathological change. Staining was done by Haematoxylin and Eosin stain. Each case was analysed with respect to age, clinical presentation and microscopic diagnosis.

Result-

During the study period, 1200 gynaecological specimens were received in the histopathological section of department of pathology GMC Jammu. Out of these 50 cases (4.5%) of ectopic pregnancy were seen. All were tubal pregnancy. Out of 50 cases, 40 cases were of ruptured tubal pregnancy and 10 cases were of unruptured tubal pregnancy.

Out of 50 cases, 30 cases were on right side and 20 cases involved left fallopian tube. Majority of these were seen involving ampullary region (46 cases) followed by fimbrial end (4 cases) of the fallopian tube .

All the patient reported were with 4 to 7 weeks of gestation. Maximum number of cases were seen at 6 weeks of gestation. Out of 50 cases, 36 cases were multigravida whereas 14 cases were primigravida.

The patients were seen in the age range of 22 to 38 years. Mean age was 27 years. Maximum number of cases were seen between 26 to 30 years followed by 21-25 years

Microscopic examination of 40 cases of ruptured cases showed product of conceptus in lumen in 30 cases and in 10 cases the products of conceptus was extraluminal .However in all unruptured cases, product of conceptus were intraluminal. Lumen also showed blood clot and chorionic villi . The subepithelial connective tissue cells showed minimal decidual reaction .

Lamina propria showed few lymphocytes and engorged blood vessels in all 50 cases . Lamina propria invasion by chorionic villi was seen in all ruptured tubules. All ruptured ectopic pregnancy cases showed intramural haemorrhagic spots along with myosalpinx invasion by chorionic villi and very much thinning of serosal and subserosal layers. Chorionic villi were found to be more in number and extensive invasion was seen till the serosa in cases of ruptured ectopic pregnancies as compared to the unruptured ectopic cases. Out of 10 cases of unruptured

ectopic pregnancy , 4 cases showed invasion by chorionic villi.

Apart from this, sections also showed concurrent presence of acute salpingitis in (16%) ,chronic salpingitis in (60%) , follicular salpingitis(10%), Walthard cell nest (7%) and salpingitis isthmica nodosa (2%).

The commonest clinical feature seen was abdominal pain (86%) followed by Amenorrhea (80%), abnormal vaginal bleeding (70%) and abdominal tenderness(75%).

Discussion

During the study period , 1200 gynaecological specimens were received in the histopathological section of department of pathology GMC Jammu. Out of these 50 cases (4.5%) of ectopic pregnancy were seen. All were tubal pregnancy .Patel MD et al (3) found 95% of ectopic pregnancies involving the fallopian tube only .

Out of 50 cases, 40 cases (80%) were of ruptured tubal pregnancy and 10 (20%) cases were of unruptured tubal pregnancy. Majhi et al (4) in his study also found 72% cases presenting as ruptured ectopic similar to that seen in our study. Thats why ectopic pregnancy should be considered as a life threatening condition.

Out of 50 cases, 30 cases were on right side and 20 cases involved left fallopian tube.This is similar to study done by Gon S et al (5) and Prachi K et al (6). Majority of these were seen involving ampullary region (46 cases) followed by fimbrial end(4 cases) of the fallopian tube . Dahiya et al(7) in his study found 79% cases in ampullary region followed by 16% cases in fimbria similar to that seen in our study.

All the patient reported were with less than 8 weeks of gestation . Maximum number of cases were seen at 6 weeks of gestation. Murray et al (8) showed common gestational age at diagnosis between 6 to 10 weeks similar to our study.

Out of 50 cases, 36 cases were multigravida whereas 14 cases were primigravida; thus predominance of ectopic gestation was seen in parous women in our study. This is similar to study done by Sharma R et al (9) and Laxmi K et al (10).

The patients were seen in the age range of 22 to 38 years. Mean age was 27 years. Maximum number of cases were seen between 26 to 30 years followed by 21 to 25 years age group. This is similar to study done by Gorva A et al (11), Khaleeque et al (12) and Shraddha Sk et al (13). Microscopic examination of 40 cases of ruptured cases showed product of conceptus in lumen in 30 cases and in 10 cases the products of conceptus was extraluminal whereas in all unruptured cases product of conceptus were intraluminal. Lumen also showed blood clot and chorionic villi. The subepithelial connective tissue cells showed minimal decidual reaction.

Lamina propria showed few lymphocytes and engorged blood vessels in all 50 cases. Lamina propria invasion by chorionic villi was seen in all ruptured tubal pregnancies. All cases of ruptured ectopic pregnancy showed intramural haemorrhagic spots along with myosalpinx invasion by chorionic villi and very much thinning of serosal and subserosal layers. Chorionic villi were found to be more in number and extensive invasion was seen till the serosa in all cases of ruptured tubal ectopic pregnancies than unruptured ectopic pregnancy cases. Out of 10 cases of unruptured ectopic pregnancy, 4 cases showed invasion by chorionic villi. All these histological findings have also been seen in studies done by Sowmya et al (2), Zaidi M T et al (14). Mudiliar AL et al (15) also has mentioned similar findings.

Apart from this sections also showed concurrent presence of chronic salpingitis in (60%), acute salpingitis in (16%), follicular salpingitis (10%), Walthard cell nest

(7%) and salpingitis isthmica nodosa (2%). Similar to that seen by Sharma R et al (9).

The commonest clinical feature seen was abdominal pain (86%), followed by Amenorrhea (80%), abnormal vaginal bleeding (70%) and abdominal tenderness (75%). This is similar to study done by Shraddha SK et al. (13).

Conclusion- Ectopic pregnancies involves fallopian tube Predominantly. Ampullary region is involved commonly. Involvement of right fallopian tube is more common than left fallopian tube. Parous women are involved more than nulliparous women. Chorionic villi invade extensively with much more thinning of serosal and subserosal layer in ruptured ectopic as compared to unruptured ectopic pregnancies. Abdominal pain is the most common presenting clinical feature among the ectopic pregnancies patients.

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Table 1 -Distribution of Ectopic pregnancy cases

Ectopic pregnancies (n=50)	Fallopian tube involved		No. of cases (n= 50)
	Right	Left	
Ruptured	24	16	40
Unruptured	6	4	10
Total	30	20	50

Table 2- Age wise distribution of Ectopic pregnancies.

Age in years	No.of cases(n)	Percentage (%)
21-25	14	28
26- 30	26	52
31-35	8	16
36 -40	2	4
Total	50	100