

Ectopic Enigma- A Case Series of Unusual Presentations of Tubal Ectopic Pregnancy

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ABSTRACT

A pregnancy that develops outside of the uterus is referred to as an ectopic pregnancy. The fallopian tube is the most typical location for ectopic pregnancy. Two percent of reported pregnancies are ectopic pregnancy. Hereby, authors present a case series of three cases, of unusual presentation of tubal ectopic pregnancy. First case was 22-year-old female, para1 living1, presented with abdominal pain, vomiting and no history of amenorrhoea. Her beta Human Chorionic Gonadotropin (HCG) was 82042 mIU/mL. A live ectopic pregnancy of 11 weeks with intact gestational sac ruptured en caul was noted on laparotomy. She underwent right salpingectomy. Second case was a 36-year-old, Abortion 2 Ectopic1, with one and a half months of amenorrhoea, abdominal pain and spotting per vagina with beta HCG of 27472 mIU/mL. Laparoscopy revealed, left sided unruptured tubal stump ectopic pregnancy and was managed by excision of tubal stump ectopic. Third case was a 26-year-old, para 2 living 2, with history of 2 months of amenorrhoea, abdominal pain and spotting per vagina. Laparotomy revealed right infundibular ectopic pregnancy with incomplete abortion with active bleeding. She underwent right salpingectomy. Cases were managed successfully. This case series emphasises the significance of having a high index of suspicion for ectopic pregnancy in all reproductive-age women regardless of their presentation.

Keywords: Ectopic pregnancy, Ectopic en caul, Infundibular ectopic, Stump ectopic, Tubal abortion

INTRODUCTION

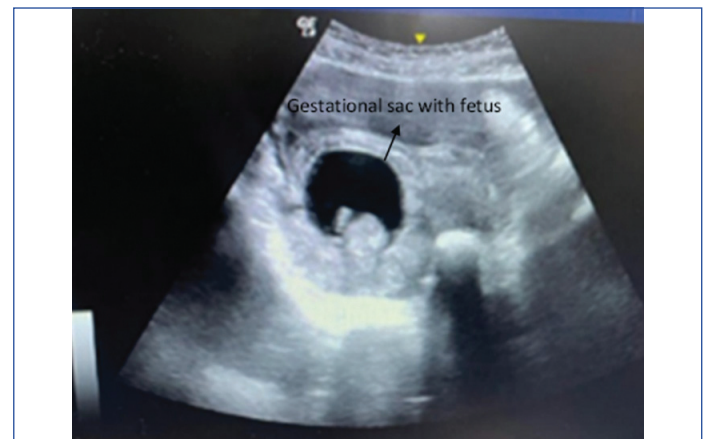
Ectopic pregnancy is defined as a pregnancy that develops outside the uterine cavity [1]. Indian studies have found an incidence of ectopic pregnancy ranging from 1-2% [2]. Fallopian tubes, account for 90% of ectopic pregnancies and the remaining 10% is seen in the cervix, ovary, myometrium, and other locations [3]. At 6 to 9 weeks of gestation, extrauterine pregnancies are most frequently diagnosed. Most patients present with vague complaints [4].

CASE SERIES

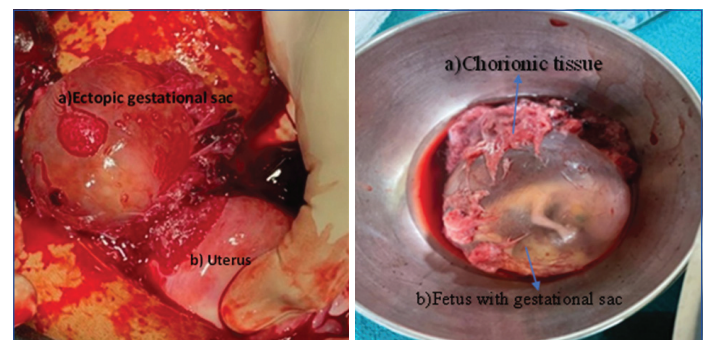
Case 1

A 22-year-old women, para 1 living 1, presented with complaints of diffuse lower abdominal pain for 6 hours and vomiting for 20 days. There was no history of amenorrhoea, with minimal menstrual flow during her last menstrual cycle, 20 days back. Patient was treated for provisional diagnosis of peritonitis in a local hospital and was started on antiemetic and analgesic medication. On examination severe pallor was present, pulse rate was 120 beats per minutes, blood pressure of 80/60 mmHg. Her abdominal examination revealed, diffuse tenderness associated with guarding and signs of free fluid. On bimanual examination, uterus was normal in size with right forniceal fullness and cervical motion tenderness. On investigation haemoglobin was 6 gm%, beta Human Chorionic Gonadotropin (β HCG) was 82042 mIU/ mL. Ultrasound examination showed, well-defined thick-walled sac like structure in the right adnexa with evidence of live foetus of Crown Rump Length (CRL) 4.43 cm, corresponding to 11 weeks 2 days. Moderate ascites with echogenic fluid was noted in the pouch of douglas (POD) [Table/Fig-1]. She was diagnosed with right ampullary tubal ectopic pregnancy of 11 weeks. Patient underwent emergency laparotomy after obtaining informed written consent. An intact gestational sac with live foetus, and surrounding chorionic tissue was noted, adjacent to ruptured right fallopian tube [Table/Fig-2]. A diagnosis of right ampullary tubal ectopic pregnancy of 11 weeks, ruptured en caul was made [Table/Fig-3]. Right salpingectomy was done. 2 liters of haemoperitoneum was noted, which was suctioned out. Patient received three units of packed

Red Blood Cell (RBC) transfusion. Histopathological examination revealed, wide areas of haemorrhage with many chorionic villi in the wall. Postprocedure patient was haemodynamically stable with repeat haemoglobin of 9 gm% and discharged on 5th postoperative day. On follow-up after 4 weeks, her β HCG was <5 mIU/mL.



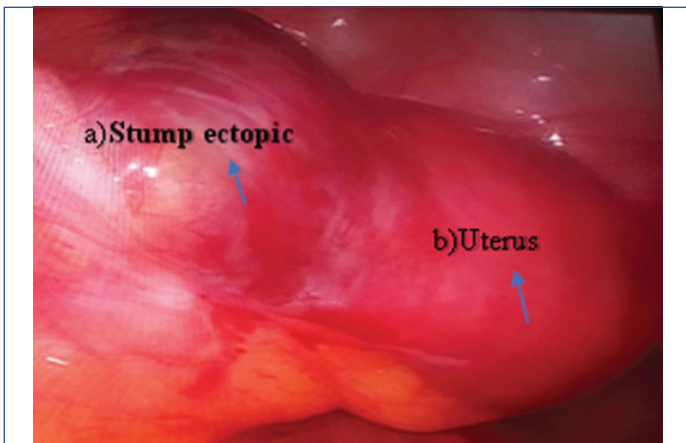
[Table/Fig-1]: Ultrasound showing ectopic gestational sac with foetus.



[Table/Fig-2]: Uterus with ruptured ectopic gestational sac. [Table/Fig-3]: Ectopic gestational sac with fetus and chorionic tissue- ruptured en caul. (Images from left to right)

Case 2

A 36-year-old female, abortion 2 ectopic¹, presented with history of one and a half months of amenorrhoea, mild abdominal pain and spotting per vagina for 4 days. Patient had consulted a private practitioner 2 days prior. She was advised oral progesterone supplements and early obstetric scan. Past obstetric history revealed, two spontaneous incomplete abortions followed by instrumental evacuation 2 years back. She had undergone emergency laparotomy with left sided salpingectomy, 4 months back for left sided ampullary tubal ectopic pregnancy. On examination her pulse rate was 86 per minute, blood pressure was 120/80 mmHg, per abdominal examination revealed, no evidence of free fluid and no guarding or rigidity. Haemoglobin was 12 gm%, beta HCG was 27472 mIU/mL. Ultrasound pelvis showed unruptured left sided tubal ectopic pregnancy with CRL of 9.8 mm corresponding to 7 weeks 3 days of gestation with no cardiac activity. She underwent diagnostic laparoscopy which showed left sided tubal stump ectopic pregnancy of 5x4 cms with dense adhesion of the omentum to the ectopic sac and posterior surface of the uterus [Table/Fig-4]. Laparotomy followed by adhesiolysis and tubal stump excision was done. Vasopressin was injected into the tubal stump to minimise bleeding. Postoperative period was uneventful and β HCG was <5 mIU/mL at one month follow-up.



[Table/Fig-4]: Stump ectopic pregnancy.

Case 3

A 26-year-old, Para 2 Living 2, presented with history of 2 months of amenorrhoea, complaints of abdominal pain for 4 days with spotting per vagina for 1 day. Patient was not on any medication and presented to the emergency department with the above complaints. On examination pulse rate was 135/min, blood pressure was 80/50 mmHg, diffuse abdominal tenderness with signs of free fluid in the abdomen was noted. Ultrasound showed, ruptured right tubal ectopic pregnancy with haemoperitoneum. On laparotomy, right infundibular tubal ectopic pregnancy with active bleeding through the fimbrial end with gestational sac in the peritoneal cavity and haemoperitoneum of 1 litre was noted. Diagnosis of infundibular tubal ectopic pregnancy with incomplete tubal abortion was made [Table/Fig-5]. Right salpingectomy was done. Patient received two units of packed RBC transfusion and was discharged on 5th postoperative day. Histopathology showed, chorionic tissue in the right fallopian tube confirming incomplete tubal abortion. Patient was lost to follow-up.

DISCUSSION

Ectopic pregnancies account for 75% of maternal deaths in the first trimester and 9-13% of all pregnancy-related deaths. They are estimated to occur in 1-2% of pregnancies [5]. A risk factor is unknown in 50% of women, who are diagnosed with an ectopic pregnancy [6]. A transvaginal ultrasound assessment and pregnancy confirmation, serve as the minimal diagnostic examination for a suspected ectopic pregnancy [1]. Over 90% of ectopic implantation cases take place in the fallopian tube,



[Table/Fig-5]: Right infundibular tubal ectopic pregnancy with incomplete tubal abortion.

making it the most frequent location [4]. The majority of ectopic pregnancies develop in the fallopian tube at various sites, with the ampulla (70%) being the most frequent, followed by the isthmus (12%), fimbria (11.1%), and interstitium (2.4%) [7]. Unruptured tubal pregnancy is often detected between 6.9 ± 1.9 weeks [8].

Live ectopic gestation ruptured en caul: In this patient tubal rupture occurred at 11 weeks of gestation with foetus being extruded en caul along with the chorionic tissue. There are only few tubal ectopic pregnancies reported beyond 11 weeks. Ectopic pregnancy ruptured en caul has not been reported to the best of our knowledge. Gari R et al., reported a case of live 13 weeks ruptured ectopic pregnancy. This patient had presented with history of three months of amenorrhoea and generalised abdominal pain and was managed successfully with emergency laparotomy and salpingectomy [9]. Largest tubal ectopic pregnancy, reported ever is of 14 weeks of gestation by Elmoheen A et al., [10]. This patient was a 40 year old who presented with abdominal pain, mild dysuria and loose motion. She was managed by laparotomy and salpingectomy. The fallopian tube wall lacks a submucosal layer, which allows ovum implantation within the muscular wall. Additionally, the quickly expanding trophoblasts destroy the muscularis layer, preventing pregnancy from continuing, as a result at 7.2 ± 2.2 weeks fallopian tube ruptures [8]. In the present case report, ectopic pregnancy rupture occurred at 11 weeks of gestation. Treating clinician should have high suspicion of ectopic pregnancy, even beyond early first trimester.

Stump ectopic pregnancy: Ectopic pregnancy occurring in tubal stump is rare. According to Ko PC et al., the prevalence of tubal stump pregnancy following tubectomy is remarkably low, at only 0.4% [11]. Melcer Y et al., reported nine women who underwent laparoscopic salpingectomy for tubal stump pregnancy. According to the findings of this study, the study group experienced a shorter time gap than the control group between the initial salpingectomy and the following stump pregnancy [12]. In the present case report, patient had undergone salpingectomy 4 months prior, to recurrence of ipsilateral tubal stump ectopic pregnancy. Shorter period to conception from previous surgery, may be one of the predisposing factor. Tubal surgeries that leave a tubal residue, may be considered similar to salpingostomy for risk of recurrence [13]. The management options for tubal stump ectopic pregnancy includes laparoscopy or laparotomy followed by resection of tubal stump ectopic pregnancy or conservative medical management with methotrexate. In one of the case series by Feng Sun et al., 42 cases of tubal ectopic pregnancies were managed laparoscopically with favourable pregnancy outcome [14]. A case of left tubal stump pregnancy was effectively treated, according to a report by Ozceltik G et al., employing a two-step approach by transvaginal natural orifice transluminal endoscopic surgery [15]. Selection of route of operation depends on surgeons

preference. In the present case report, patient underwent laparotomy followed by tubal stump excision.

Infundibular ectopic pregnancy with incomplete tubal abortion:

The term "tubal abortion" refers to the extrusion of the foetus via the fallopian tube's abdominal ostium into the peritoneal cavity. It may cause considerable bleeding and be either total or incomplete [16]. Actual statistics on the prevalence of tubal abortions are unavailable. According to reports, the incidence rate is 2.5% of all tubal pregnancies, with frequency varying between 6% to 73% [16]. Aryal S et al., reported a case of 'tubal abortion masquerading as acute appendicitis with a negative urine pregnancy test' [17]. Chirculescu B et al., reported a case of 30 year old women with complete tubal abortion, diagnosed on laparoscopy and managed conservatively [16]. The patient's haemodynamic stability, Beta HCG level, gestational sac size, and desire for future fertility are the factors that must be taken into consideration while choosing the appropriate treatment approach. Through accurate diagnosis of tubal abortion, these patients can be managed conservatively. In the present case report, patient was haemodynamically unstable with continuing active bleeding from the fimbrial end hence, underwent salpingectomy.

CONCLUSION(S)

Ectopic pregnancies are one of the major cause of maternal mortality in the first trimester and are on the rise throughout the world. High index of suspicion, early ultrasonography, serum beta HCG helps to diagnose ectopic pregnancies at an early stage. Unusual modes of presentation of ectopic pregnancy other than tubal rupture, presentation beyond early first trimester should be kept in mind when managing patients in the reproductive age group.

REFERENCES

- [1] Committee on Practice Bulletins. Clinical Management Guidelines for Obstetrician-Gynecologists. *Obstet Gynecol.* 2020;133(76):168-86. Available from: <https://www.acog.org/clinical/clinical-guidance/practice-bulletin/articles/2020/07/diagnosis-and-management-of-vulvar-skin-disorders>.
- [2] Tahmina S, Daniel M, Solomon P. Clinical Analysis of Ectopic Pregnancies in a Tertiary Care Centre in Southern India: A Six-Year Retrospective Study. *J Clin Diagnostic Res.* 2016;10(10):QC13-QC16.
- [3] Panelli DM, Phillips CH, Brady PC. Incidence, diagnosis and management of tubal and nontubal ectopic pregnancies: a review. *Fertil Res Pract.* 2015;(1):15. Available from: <http://dx.doi.org/10.1186/s40738-015-0008-z>.
- [4] Taran F, Kagan K, Hübner M, Hoopmann M, Wallwiener D, Brucker S. The diagnosis and treatment of ectopic pregnancy. *Dtsch Arztebl Int.* 2015;112(41):693-703.
- [5] Gaskins AJ, Missmer SA, Rich-Edwards JW, Williams PL, Souter I, Chavarro JE, et al. Demographic, lifestyle, and reproductive risk factors for ectopic pregnancy. *Fertil Steril.* 2018;110(7):1328-37.
- [6] Barnhart KT, Sammel MD, Gracia CR, Chittams J, Hummel AC, Shaunik A. Risk factors for ectopic pregnancy in women with symptomatic first-trimester pregnancies. *Fertil Steril.* 2006;86(1):36-43.
- [7] Khalil MM, Badran EY, Ramadan MF, Shazly SAM, Ali MK, Yahia A, et al. An advanced second trimester tubal pregnancy: Case report. *Middle East Fertil Soc J.* 2012;17(2):136-38.
- [8] Saxon D, Falcone T, Mascha EJ, Marino T, Yao M, Tulandi T. A study of ruptured tubal ectopic pregnancy. *Obstet Gynecol.* 1997;90(1):46-9.
- [9] Gari R, Abdulqader R, Abdulqader O. A Live 13 Weeks ruptured ectopic pregnancy: A case report. *Cureus.* 2020;12(10):10-13.
- [10] Elmoheen A, Salem W, Eltagawny M, Elmoheen R, Bashir K. Case Report The Largest Tubal Pregnancy: 14th Week. *Case Rep Obstet Gynecol.* 2020;2020:4728730.
- [11] Ko P, Liang C, Lo TS, Huang HY. Six cases of tubal stump pregnancy: Complication of assisted reproductive technology? *Fertil Steril.* 2011;95(7):2432.e1-2432.e4.
- [12] Melcer Y, Naaman H Zur, Hausman R, Vaknin Z, Levinsohn-Tavor O, Maymon R, et al. Tubal stump pregnancy after salpingectomy- Does the time interval from surgical intervention to conception matter? *J Obstet Gynaecol Res.* 2021;47(7):2509-14.
- [13] Anwar S, Uppal T. Recurrent viable ectopic pregnancy in the salpingectomy stump. *Australas J Ultrasound Med.* 2010;13(3):37-40.
- [14] Sun F, Mb SY, Mm YY, Mm XL, Xu H. Laparoscopic management of 42 cases of tubal stump pregnancy and postoperative reproductive outcomes. *J Minim Invasive Gynecol.* 2020; 27(3):618-24.
- [15] Ozceltik G, Yeniel AO, Atay AO, Itil IM. Transvaginal natural orifice transluminal endoscopic surgery for tubal stump pregnancy. *J Minim Invasive Gynecol.* 2020;28(4):750-51.
- [16] Chirculescu B, Chirculescu R, Ionescu M, Peltecu G, Panaitescu A. Complete tubal abortion: A rare form of ectopic pregnancy. *Chir.* 2017;112(1):68-71.
- [17] Aryal S, Man B, Lamsal S, Regmi M, Karki A, Katuwal N. Tubal abortion masquerading as an acute appendicitis with a negative urine pregnancy test: A case report. *Int J Surg Case Rep [Internet].* 2021;87:106438.

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