

Interstitial Pregnancy a Rare Form of Ectopic Pregnancy: Case Report

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ABSTRACT

Interstitial pregnancy is a rare variety of ectopic pregnancy, it can have disturbed 8-16 weeks of amenorrhea (later than the distal tubal ectopic pregnancy), due to the dispensability of the myometrium covering the interstitial segment of the fallopian tube, with subsequent massive internal hemorrhage.

A 29-years-old female, Gravida 3, Para 2, presented with severe abdominal pain, vomiting, and syncope 3 days after her missing period, and positive pregnancy test. Trans-vaginal ultrasound showed empty uterine cavity, free pelvic fluid with severe cervical motion tenderness. She was diagnosed with ruptured ectopic pregnancy. Ruptured ectopic pregnancy in the proximal segment of right fallopian tube was confirmed with laparotomy.

The ruptured pregnancy was managed by right salpingectomy, and hemostatic stitches at the right uterine corn. Her hemoglobin was 8 gr on admission, and she received 3 units of packed RBCs (one intra-operative, and two post-operative). Her post-operative hemoglobin was 10.5 gr, and she was discharged from the hospital on the 3rd post-operative day in good general condition for follow up in the outpatients' department.

This case report represents a rare variety of ectopic pregnancy, which is the interstitial pregnancy, because it can rupture few days or weeks after the missed period with subsequent massive internal hemorrhage.

Interstitial pregnancy is a rare form of ectopic pregnancy, the obstetricians should be aware of rare forms of ectopic pregnancies, it can have disturbed few days or weeks after the missed period leading to subsequent significant morbidity.

Keywords: Interstitial, Ectopic, Pregnancy, Rare

Gynecol Obstet Reprod Med 2018;24(3):167-169

Introduction

Interstitial pregnancy is a rare variety of ectopic pregnancy, occurs after implantation of the fertilized ovum in the proximal tubal segment that lies within the muscular uterine

wall (incorrectly called corneal pregnancy). Undiagnosed interstitial pregnancy usually disturbed at 8-16 weeks of amenorrhea (later than the distal tubal ectopic pregnancy). In addition; the interstitial ectopic pregnancy carries the risk of severe hemorrhage, and high mortality rate (2.5%), due to the proximity of the interstitial fallopian tube to the uterine, and ovarian arteries (1-3).

The interstitial pregnancy can be diagnosed early in many cases using the trans-vaginal ultrasound (TVS), and β -hCG, but the diagnosis can be challenging in some cases (4). The missed diagnosis of interstitial ectopic pregnancy may result in life-threatening internal hemorrhage (4).

The criteria that may differentiate includes; empty uterus, with an eccentric gestational sac seen separate from the endometrium, the gestational sac is more than 1 cm away from the most lateral edge of the uterine cavity, and <5-mm myometrium surrounding the gestational sac (5). Moreover, an echogenic line (the interstitial line sign) extending from the gestational sac to the endometrium cavity represents the interstitial portion of the fallopian tube, and is highly sensitive, and specific (6). In unclear cases; the three-dimensional sonography may help the diagnosis (7).


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Submitted for Publication: 19. 10. 2017

Accepted for Publication: 06. 01. 2018

Access this article online	
Quick Response Code: 	Website: www.gorm.com.tr info@gorm.com.tr
	DOI:10.21613/GORM.2017.744

How to cite this article: Faza MA. and Abdelazim IA. Interstitial Pregnancy a Rare form of Ectopic Pregnancy: Case Report. *Gynecol Obstet Reprod Med* 2017;24(3):167-169

Traditionally interstitial pregnancy treated with open laparotomy, and salpingectomy with possible need for blood transfusion, and other treatment options include; laparoscopic salpingectomy, and systemic methotrexate for un-ruptured ectopic pregnancies in hemodynamically stable patients (8).

Case Report

29 years-old woman, Gravida 3, Para 2 (previous two vaginal deliveries), admitted to the hospital with severe abdominal pain, dizziness, and syncope, positive pregnancy test, and missed period for 3 days. She used to have regular menses, and her β -hCG done on admission was 3390 mIU/mL.

She was pale on admission, she had tachycardia (pulse rate 120 beats/minute) with generalized abdominal pain, distension, and tenderness.

Trans-vaginal ultrasound (TVS) showed empty uterine cavity, free pelvic fluid in the Douglas pouch (DP) (Figure 1), with severe cervical motion tenderness. She was diagnosed as acutely disturbed ectopic pregnancy. Emergency laparotomy done revealed ruptured right interstitial pregnancy (Figures 2 and 3).



Figure 1: Trans-vaginal ultrasound image of empty uterus and free fluid in Douglas pouch



Figure 2: Intra-operative image of right interstitial ectopic pregnancy



Figure 3: Intra-operative image of right interstitial ectopic pregnancy

The ruptured pregnancy managed by right salpingectomy, and hemostatic stitches at the right uterine corn.

Her hemoglobin was 8 gr on admission, and 3 units of packed red blood cells (one intra-operative, and two post-operative) were transfused. Her post-operative hemoglobin was 10.5 gr, and she was discharged from the hospital on the 3rd post-operative day in good general condition.

Discussion

Previous ectopic pregnancy, pelvic inflammatory diseases (PID), fallopian tube surgery or sterilization, documented tubal pathology, assisted reproductive techniques (ARTs), multiple sexual partners, prior cesarean delivery are risk factors of ectopic pregnancy (9).

Approximately 92% of ectopic pregnancies occur in the ampulla part of the fallopian tubes, and rupture of the ampulla ectopic pregnancy usually occurs at 8-12 weeks. While, 2.5% of the ectopic pregnancies are interstitial ectopic pregnancies, and less commonly cervical, ovary and/or peritoneal (9).

Interstitial pregnancy can have disturbed 8-16 weeks of amenorrhea (later than the distal tubal ectopic pregnancy), with subsequent massive internal hemorrhage.

An ectopic pregnancy should be suspected if the TVS shows no intrauterine gestational sac, and β -hCG is higher than 1,500 mIU/mL (10-11).

In spite of the available diagnostic tools as TVS, and β -hCG, the diagnosis of interstitial ectopic pregnancy can be challenging in some cases, and the missed diagnosis of interstitial ectopic pregnancy may result in life-threatening internal hemorrhage (4).

The obstetricians should be aware by the rare varieties of the ectopic pregnancies such as the interstitial pregnancy to

avoid the massive internal hemorrhage, and subsequent significant morbidity.

Traditionally interstitial pregnancy treated with open laparotomy (8). A Cochrane systematic review concluded that the laparoscopic conservative surgery is significantly less successful than the open surgical approach in the elimination of tubal pregnancy due to the higher persistent trophoblast rate after laparoscopic surgery, and one single dose of methotrexate necessitating additional methotrexate injections or surgical interventions (12).

Katz et al, (13), reported two cases of interstitial pregnancy treated successfully with a combined hysteroscopic, and laparoscopic approach (13).

Timmerman et al, (14), reported successful treatment of interstitial ectopic pregnancy by systemic methotrexate (multiple dose regimen) in two patients out of three. In addition; Tanaka et al, (15), reported successful treatment of interstitial ectopic pregnancy in 93.9% (31/33) women with bolus dose of methotrexate 100 mg followed by 200 mg of methotrexate infusion over 12 hours, and 4 doses of 15 mg oral folinic acid post-treatment.

Interstitial pregnancy is a rare form of ectopic pregnancy, the obstetricians should be aware of rare forms of ectopic pregnancies, it can have disturbed few days or weeks after the missed period leading to subsequent significant morbidity.

✉: *Acknowledgements: None*

Financial / Material Support: None

Conflict of Interest: The authors declare no conflict of interest.

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