

HJOG 2022, 21 (2), 107-110 | DOI: 10.33574/HJOG.0506

Rare case of 4 times ectopic pregnancy on the same site

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Abstract

In the present case report we discuss the factors that contribute to the recurrence of ectopic pregnancy in the interstitial area of the uterus. Interstitial pregnancies account for 2-6% of all ectopic pregnancies and carry a 2-5% mortality rate due to their potential to cause a life-threatening haemorrhage. Identification of early signs and symptoms of ectopic pregnancy is of paramount importance for the optimal management of these women.

Key words: Ectopic pregnancy, stump ectopic, prevalence of stump ectopics, likelihood of future ipsilateral ectopics, Interstitial ectopic

Ectopic pregnancy

Ectopic pregnancy is the term used to describe any pregnancy that implants outside of the endometrial cavity. The most common site of an ectopic pregnancy is within the fallopian tube, followed by the ovary and the abdomen.^{1,2} The prevalence of ectopic pregnancy is thought to be around 11 in 1,000 pregnancies, with an estimated maternal mortality of 0.2 per 1,000 ectopic pregnancies.³ Interstitial pregnancies account for 2-6% of all ectopic pregnancies.⁴ Interstitial pregnancies inherently carry a higher risk of rupture and subsequent haemorrhage, so the risk of maternal mortality is higher.⁵ The approach to management of interstitial pregnancies is based on a multitude of factors, including the patient's presentation and symptoms, time taken for diagnosis, gestation of the pregnancy,

depth of surrounding myometrium, haemodynamic state and desire for future fertility.⁶

The case we are discussing here is of a patient who has had four ectopic pregnancies at the same site, including a stump ectopic and an interstitial pregnancy on the ipsilateral side. The likelihood of having another ectopic pregnancy given a previous ectopic pregnancy is thought to be in the region of 10-27%.⁷ An ectopic pregnancy located in the tubal stump following salpingectomy is extremely rare; the prevalence is thought to be about 0.4% of all ectopic pregnancies.⁸

Case study

The case is that of a 32-year-old lady, gravida 9, para 2, who presented to the emergency department

with a one-day history of pelvic pain and pain over her buttocks. She believed she was approximately five weeks pregnant and was very anxious as she believed the symptoms she was experiencing were the same as those of her last two ectopic pregnancies. She denied any vaginal bleeding, dizziness or shoulder tip pain.

This patient had a history of two spontaneous vaginal deliveries in 2012 and 2015, three early miscarriages and three ectopic pregnancies. All of the miscarriages were spontaneous at 4-5 weeks gestation. The first ectopic pregnancy occurred over eight years ago on the left fallopian tube and was managed medically with Methotrexate. The second ectopic pregnancy, in December 2019, on the left fallopian tube, was managed surgically with a left salpingectomy. The third ectopic pregnancy, in October 2020, was on the stump of the left fallopian tube and was managed surgically with the left tubal stump being excised.

She was otherwise fit and well, with no significant past medical history and no regular medications. She was a non-smoker with minimal alcohol intake.

On examination in the emergency department, she was stable. She had a normal pulse rate, and had a slightly high blood pressure of 161/85. She was afebrile and able to mobilise, however, she complained of pain when walking, and her abdomen was soft with some mild discomfort over the right side and tenderness suprapubically, but not guarding and not peritonitic. Her blood analysis results were largely unremarkable. She had a slightly raised white cell count of 11.2, but otherwise all markers were within normal range. Her human chorionic gonadotropin level on admission was 1070 and her progesterone level was 14.

Overnight she was stable with observations all within normal limits. She was then seen the following day on the ward round and on examination her

abdomen was still soft, lax, with generalised lower abdominal pain. Transvaginal ultrasound showed:

Anteverted uterus. The endometrium appears regular in outline and measures 14mm at the fundus. No IU sac seen within.

Large amount of blood noted anterior to the uterus. Clot noted anterior to the uterus measures 29.1x19.3x61.8mm (Figure 1).

Right ovary appears normal. Anterior to the right ovary is small parafimbrial cyst that measures 8.5mm. Medial to this is an echogenic tubal structure that measures 14.7x7.4x26.6mm ? blood clot ? fallopian tube. Left ovary appears to contain the corpus luteum. On the left aspect of the uterus from which the large anterior blood clot appears to arise from an echogenic ring mass that measures 13.1x12.7mm ? interstitial ectopic pregnancy ? blood clot.

IMP: Large amount of blood/ clots in pelvis- evidence of rupture- likely ectopic ? from which side.

She was then taken to theatre for an emergency

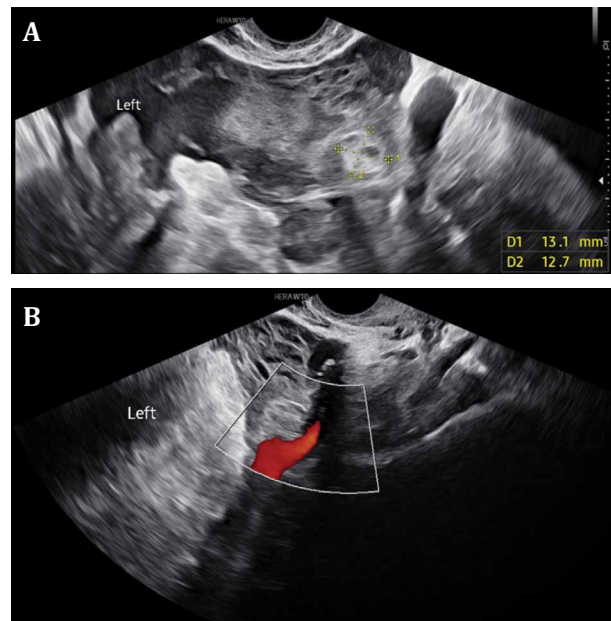


Figure 1. A. interstitial pregnancy. B. Echogenic clot in the left aspect of the uterus.

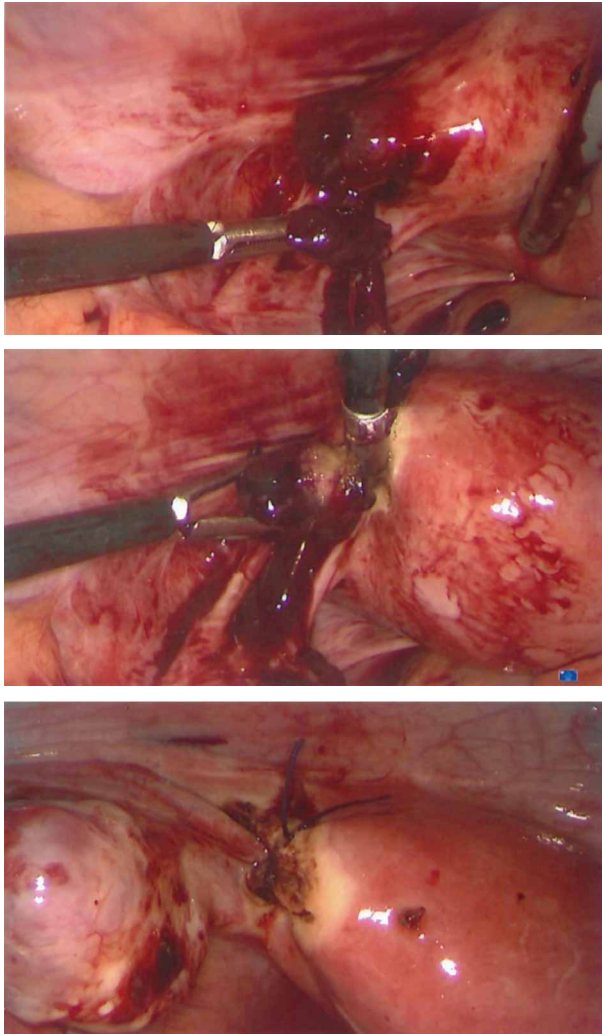


Figure 2. Removal of the interstitial pregnancy with the use of bipolar and harmonic devices and closure of the uterine defect with Vicryl 1 stiches.

laparoscopic procedure. During the surgery there was a hemoperitoneum measuring 150 mls, as well as an interstitial ectopic pregnancy on the left uterine cornu, which was actively bleeding. The interstitial ectopic was removed via a wedge shape using a combination of bipolar and harmonic devices (Figure 2). The uterine gap was sutured using vicryl 1 and an extra figure of 8 suture was applied for haemostasis.

Conclusion

Ectopic pregnancies pose a major threat to the life of women of childbearing age. The increased prevalence of ectopic pregnancies is thought to be due to raised maternal age, increased use of assisted reproductive technique and an increase in sexually transmitted diseases.⁸ Having one previous ectopic pregnancy substantially increases the risk of having another ectopic pregnancy. However, a protective factor is thought to be an increasing number of normal pregnancies from the first ectopic pregnancy.⁷

Interstitial pregnancies account for 2-6% of all ectopic pregnancies and carry a 2-5% mortality rate due to their potential to cause a life-threatening haemorrhage.⁴ The estimated mortality rate from interstitial pregnancies is seven times higher than that of the average for all ectopic pregnancies, and is thought to account for 20% of deaths associated with ectopic pregnancies.^{4,6} The diagnosis and management of interstitial pregnancies remains difficult due to the rarity of the nature of this type of pregnancy. Interstitial pregnancies are defined as implantation of the blastocyst in the most proximal section of the fallopian tube, which lies within the myometrium. The incidence of ectopic pregnancies has been found to be increasing, at the same time that the proportion of ectopic pregnancies that are interstitial is also on the rise. This is thought to be multifactorial, linked to better diagnostic tools, increased prevalence of pelvic inflammatory disease, pelvis surgery and assisted reproductive techniques. Historically interstitial pregnancies would be diagnosed at laparotomy when they had ruptured at the end of the first trimester or the beginning of the second trimester. This meant they were associated with a high hysterectomy rate of up to 40%. The inherent increased morbidity and mortality risk of interstitial pregnancies is linked to the catastrophic haemorrhage that occurs following rupture of the pregnancy, due to the close proximity of the gestational sac to the intramyometrial arcu-

ate vasculature. It is also postulated that interstitial pregnancies tend to be larger when they rupture, compared to tubal ectopic pregnancies, as the later of myometrium encompassing the pregnancy is able to accommodate larger pregnancies, before rupture, compared to the fallopian tube.⁴ The rate of rupture of interstitial pregnancies is thought to be around 15%.⁶

Risk factors for tubal stump pregnancies include previous salpingectomy and in vitro fertilization treatment. The management options for tubal stump pregnancies are either medical, with the use of Methotrexate, or surgical. Surgical management of tubal stump ectopic pregnancies has been shown to be more effective than the use of methotrexate, with success rates of 100% compared to 83%. However, there is little known about future fertility and pregnancy outcomes for patients following laparoscopic treatment for tubal stump pregnancies. It is difficult to prevent an ectopic pregnancy in the remnant segment of the fallopian tube, even if the fallopian tube has been almost completely resected. It has been suggested that assessment using hysterosalpingography should be considered to assess the patency of the remnant tubal stump, and potentially tubal occlusion devices could be used to avoid tubal stump pregnancies.⁹ Following laparoscopic surgery for tubal stump pregnancies, the risk of uterine rupture in subsequent pregnancies is thought to be about 5%, hence it is suggested that a caesarean section delivery should be considered as a potentially safer mode of delivery in such subsequent pregnancies.^{8,9}

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Received 03-02-22

Revised 17-02-22

Accepted 24-02-22