

A RARE CASE OF FOUR ECTOPIC PREGNANCIES ON THE SAME SIDE

DR SHAKIRA FLEMING & MR AHMED EL GOHARI



East Kent
Hospitals University
NHS Foundation Trust

BACKGROUND

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, hence 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 on the same fallopian tube, 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.

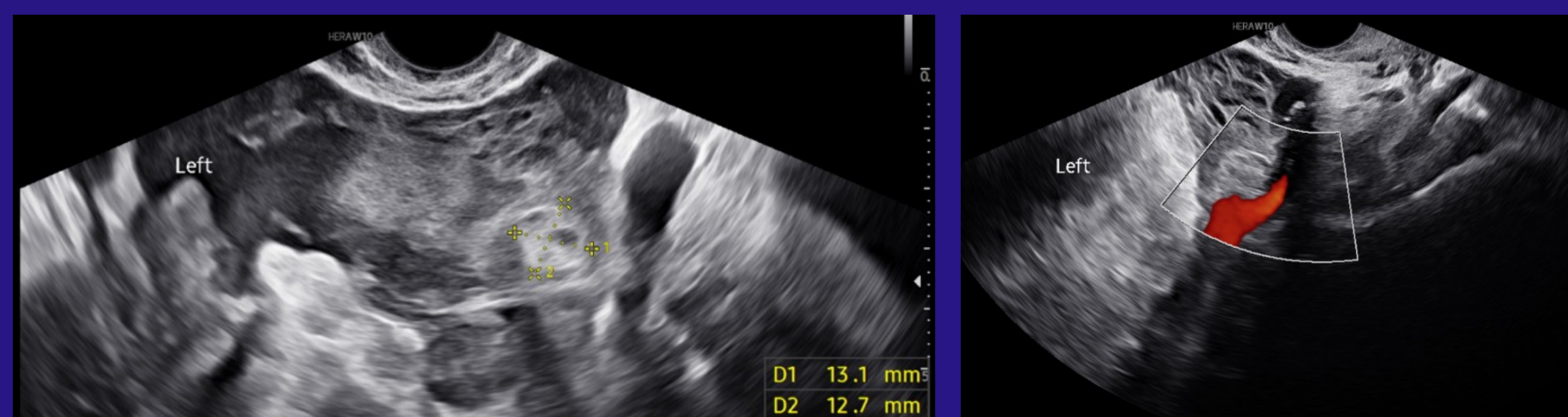
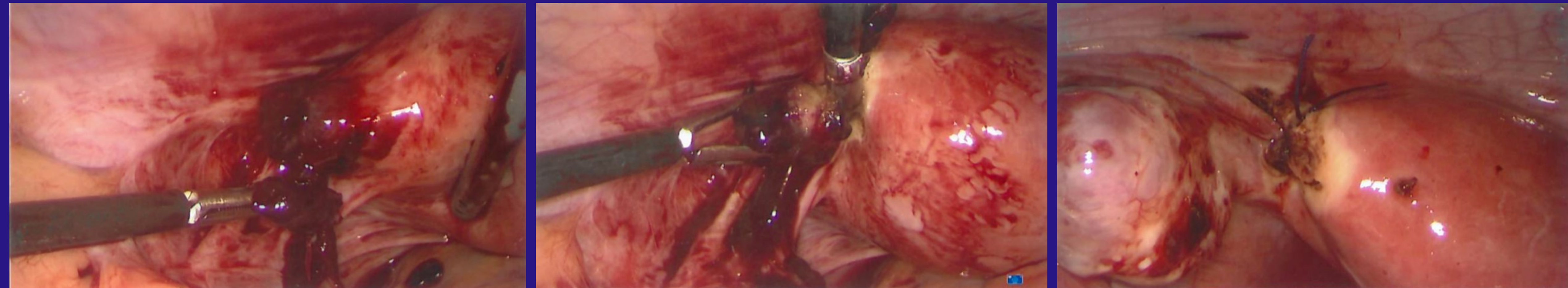
This patient had a history of two spontaneous vaginal deliveries in 2012 and 2015, three early miscarriages and three ectopic pregnancies. All of the miscarriages were spontaneous at 4-5 weeks gestation. The first ectopic pregnancy occurred over eight years ago on the left fallopian tube and was managed 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. Her abdomen was soft with some mild discomfort over the right side and tenderness suprapubically, but no guarding or peritonitis. Her blood 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 tenderness.

Transvaginal ultrasound showed no intrauterine sac. There was a large amount of blood noted anterior to the uterus with a clot measuring 29.1x19.3x61.8mm. The right ovary appeared normal with a small para-fimbrial cyst measuring 8.5mm anterior to it. Medial to this showed an echogenic tubal structure that measured 14.7x7.4x26.6mm. The left ovary appeared to contain the corpus luteum. On the left aspect of the uterus, from which the large anterior blood clot appears to arise, appeared an echogenic ring mass that measures 13.1x12.7mm which was suspicious for an interstitial ectopic pregnancy.

She was then taken to theatre for an emergency laparoscopic procedure. During the surgery there was a haemoperitoneum measuring 150ml, 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. The uterine gap was sutured using vicryl 1 and an extra figure of 8 suture was applied for haemostasis. Histology results confirmed ectopic pregnancy.



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 intrauterine pregnancies from the first ectopic pregnancy [7].

Interstitial pregnancies are defined as implantation of the blastocyst in the most proximal section of the fallopian tube, which lies within the myometrium. They 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]. Many challenges remain in the diagnosis and management of interstitial pregnancies due to the rarity of the nature of this type of pregnancy. 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. 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. The rate of rupture of interstitial pregnancies is thought to be around 15% [6]. 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 arcuate vasculature. It is also postulated that interstitial pregnancies tend to be larger when they rupture, compared to tubal ectopic pregnancies, as the layer of myometrium encompassing the pregnancy is able to accommodate larger pregnancies, before rupture, compared to the fallopian tube [4].

Risk factors for tubal stump pregnancies include previous salpingectomy and in vitro fertilisation 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].

REFERENCES

- [1] bestpractice.bmj.com. (n.d.). Ectopic pregnancy - Symptoms, diagnosis and treatment | BMJ Best Practice. [online] Available at: <https://bestpractice.bmj.com/topics/en-gb/174> [Accessed 4 May 2022].
- [2] Sivalingam, V.N., Duncan, W.C., Kirk, E., Shephard, L.A. and Horne, A.W. (2011). Diagnosis and management of ectopic pregnancy. Journal of Family Planning and Reproductive Health Care, [online] 37(4), pp.231-240. doi:10.1136/jfprhc-2011-0073.
- [3] www.nice.org.uk. (n.d.). Context | Ectopic pregnancy and miscarriage: diagnosis and initial management | Guidance | NICE. [online] Available at: <https://www.nice.org.uk/guidance/ng126/chapter/Context> [Accessed 4 May 2022].
- [4] Ahlschlager, L.M., Mysona, D. and Beckham, A.J. (2021). The elusive diagnosis and emergent management of a late-presenting ruptured interstitial pregnancy: a case report. BMC Pregnancy and Childbirth, 21(1), doi:10.1186/s12884-021-04026-7.
- [5] Grindler, N.M., Ng, J., Tocce, K. and Alvero, R. (2016). Considerations for management of interstitial ectopic pregnancies: two case reports. Journal of Medical Case Reports, 10(1), doi:10.1186/s13256-016-0892-9.
- [6] Brincat, M., Bryant-Smith, A. and Holland, T.K. (2019). The diagnosis and management of interstitial ectopic pregnancies: a review. Gynecological Surgery, 16(1), doi:10.1186/s10397-018-1054-4.
- [7] Petrin, A. and Spandorfer, S. (2020). Recurrent Ectopic Pregnancy: Current Perspectives. International Journal of Women's Health, [online] 12, pp.597-600. doi:10.2147/IJWH.S223909.
- [8] Nishida, M., Miyamoto, Y., Kawano, Y., Takebayashi, K. and Narahara, H. (2015). A Case of Successful Laparoscopic Surgery for Tubal Stump Pregnancy after Tubectomy. Clinical Medicine Insights: Case Reports, 8, p.CCRRep.S20907. doi:10.4137/ccrep.s20907.
- [9] Sun, F., Yang, S., Yang, Y., Liu, X. and Xu, H. (2020). Laparoscopic Management of 42 Cases of Tubal Stump Pregnancy and Postoperative Reproductive Outcomes. Journal of Minimally Invasive Gynecology, 27(3), pp.618-624. doi:10.1016/j.jmig.2019.04.030.