

Interstitial Ectopic Pregnancy

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Citation

R Odonde, B Johal, A Dutta. *Interstitial Ectopic Pregnancy*. The Internet Journal of Gynecology and Obstetrics. 2014 Volume 19 Number 1.

DOI: [10.5580/IJGO.17588](https://doi.org/10.5580/IJGO.17588)

Abstract

Ectopic pregnancies are a major contributor to the cause of early pregnancy deaths in the United Kingdom. Interstitial pregnancies are a small percentage of ectopic pregnancies and thus are not commonly diagnosed.

In this case report, we describe a patient who had two ipsilateral ectopic pregnancies within the space of two months. She underwent a right salpingectomy only to go on to have a second ectopic, which was interstitial. Interstitial ectopics have an increased mortality rate in comparison to other ectopics.

She presented with very few symptoms and the diagnosis of an interstitial ectopic pregnancy was missed radiologically. One ectopic pregnancy already increases the chance of another ectopic, including the fact she had undergone a salpingectomy.

Our case report aims to highlight the importance of maintaining a high clinical index of suspicion for ectopic pregnancies, especially in a case with known risk factors. A pregnancy of unknown location should mean a low threshold for diagnostic laparoscopy. Our patient illustrates the importance of this, including subsequent early pregnancy scans.

INTRODUCTION

We present an interesting case of an interstitial ectopic pregnancy, which followed a fallopian ectopic on the ipsilateral side.

Ectopic pregnancies are still the number one cause of early pregnancy deaths in the United Kingdom, directly related to pregnancy¹. There may not be any statistical difference between the case fatality rates between the Seventh and Eighth report from the Centre of Maternal and Child Enquiries, but the fatalities are still of clinical significance¹.

An ectopic pregnancy (EP) is a pregnancy implanted outside of the intrauterine cavity. The most common site is the fallopian tube (95.5%) followed by the ovaries (3.2%) and abdomen (1.3%)². The most common site in the fallopian tube is the ampulla. Rupture of ectopics is a serious and life-threatening complication of early pregnancy.

Interstitial pregnancies are ectopic pregnancies, which are implanted in the intramyometrial portion of the fallopian tube and constitutes 2.5% of all EPs². The term interstitial pregnancy is used interchangeably in the literature with cornual pregnancies. A true cornual pregnancy occurs in the

cornu of a bicornuate uterus. It is important not to confuse these with angular pregnancies that arise in the angle of the uterine cavity medial to the ostium³.

Presentation varies, but in a woman of reproductive age, the classic presentation of amenorrhoea, light vaginal bleeding and lower abdominal pain should automatically put the possibility of an EP amongst the differential diagnoses.

CASE REPORT

A 28 year-old Caucasian lady presented with a recurrent ectopic pregnancy on the ipsilateral right side within an interval of two months.

She was gravida 2 para 1 at initial presentation. Her first pregnancy resulted in a live female infant via an uncomplicated spontaneous vaginal delivery, three years and two months prior.

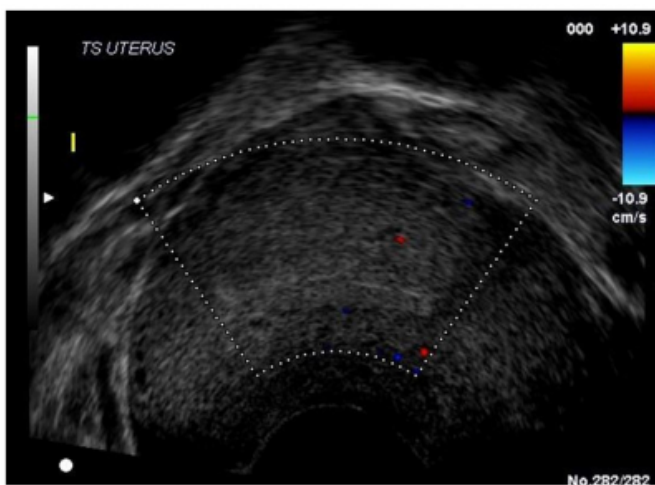
She first presented with a five day history of brown vaginal discharge, mild suprapubic pain and a positive urine pregnancy test. Her past medical history was unremarkable. Her system review was normal. She was haemodynamically stable and her pelvic examination was normal, which

did not elucidate cervical excitation, adnexal tenderness and revealed a retroverted uterus. There was only very mild suprapubic tenderness.

The first serum BhCG taken was 2114 IU/L. Her Transabdominal (TAS) and Transvaginal ultrasound scan (TVS) showed a retroverted uterus and no gestational sac. There was no free fluid in the Pouch of Douglas. The left ovary appeared normal and there was a likely collapsing corpus luteum on the right ovary. The radiological diagnosis was a pregnancy of unknown location (PUL) (figure 1.)

Figure 1

From first set of USS. It shows a retroverted uterus with no gestational sac visible.



Serial β HcGs were measured. There was a suboptimal rise of β HcG after 48 hours at 3,895 IU/L. Therefore, laparoscopy was undertaken in view of the high suspicion of an ectopic pregnancy. The findings at laparoscopy were that of a ruptured right-sided tubal ectopic pregnancy (figure 2.). A right salpingectomy was performed (figure 3.). There was a haemoperitoneum and organised clots. The left tube and both ovaries were normal. There were no pelvic adhesions. Histology confirmed an ectopic pregnancy. She made an adequate post-operative recovery and was discharged the following day.

Figure 2

Laparoscopy reveals a right sided tubal ectopic pregnancy.

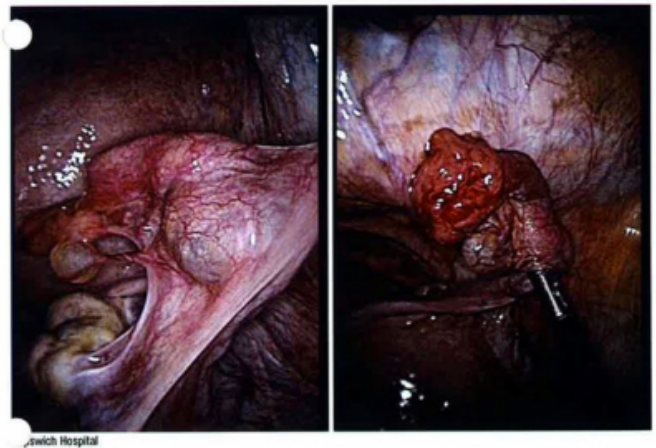
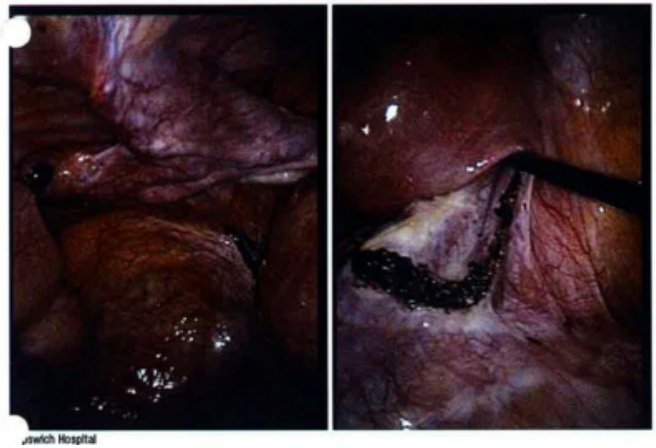


Figure 3

Right salpingectomy.



The patient represented two months later for confirmation of pregnancy location in view of her previous ectopic. She presented with a positive urinary pregnancy test.

Two USS' 48 hours apart found an empty uterus, normal ovaries and no adnexal mass (figure 4.). A serum β HcG was taken because of the high level of suspicion of an ectopic pregnancy. Serial β HcGs showed a suboptimal rise from 8,611 IU/L to 14,600 IU/L. At these levels there should be sonographic evidence of a pregnancy. The threshold for visualisation of a pregnancy are from 1,000 IU/L for TVS2. She denied any symptoms of pain or bleeding. Hence, in view of her raised serum β HcG she had a repeat laparoscopy for a suspected ectopic. The findings were that of a right cornual ectopic pregnancy (figure 5.). She made a good post-operative recovery. And follow up β HcG was organised in view of risk of remaining trophoblastic tissue. There was progressive a progressive fall in β HcG levels.

Figure 4

TVS during the second presentation showing no definite gestational sac.

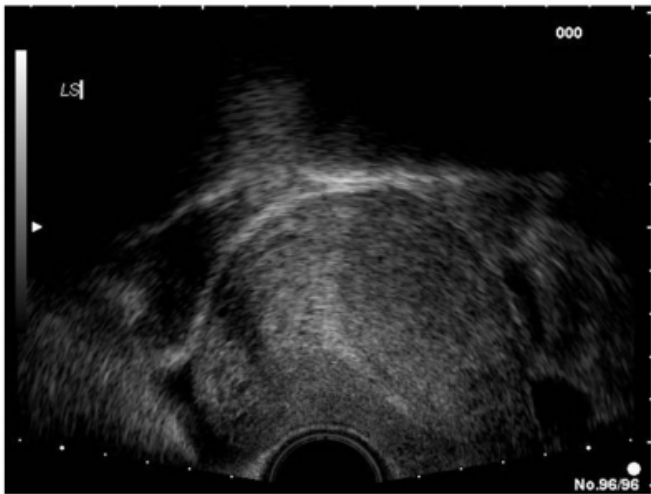
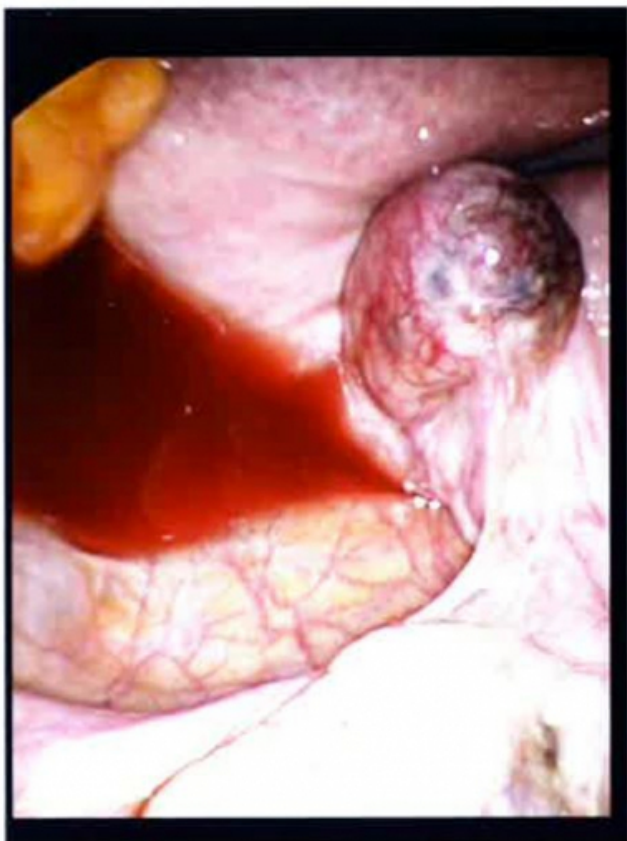


Figure 5

Right corneal stump with the ectopic pregnancy.



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DISCUSSION

This case was challenging in the sense that the presentations were in quick succession and the diagnosis based on a high degree of suspicion on the background of minimal or no

symptoms on the second presentation. She had a complete salpingectomy to minimise the risk of a stump ectopic after her first presentation. There is the possibility that a fistula acting as a nidus could have led to implantation in the cornua.

The identified common risk factors for EPs include, pelvic inflammatory disease mainly from Chlamydia trachomatis infection, smoking, previous pelvic surgery including tubal surgery, in vitro fertilisation, endometriosis and previous EPs. However, the most significant risk factor is a previous ectopic.

Having had a previous EP and a salpingectomy obviously increased this patient's risk. The Odds Ratio for having a second EP is 12.5% and it increases to 76.6%⁴. Therefore, it can be inferred that this patient's risk for a third pregnancy is extremely high. Unbeknownst to us she had an increased maternal risk for acquiring EPs. Hence, she has been advised to get an early USS should she find herself pregnant again in the future.

Our patient had a history of having extremely mild and in the case of the interstitial pregnancy no symptoms. She was identified as having a PUL because she came for an early USS with her recognised risk of EPs. She might not have experienced any vaginal bleeding because it was too early on in gestation and vaginal bleeding is less common with proximal EPs compared with more distal ones. Vaginal bleeding occurs in an average of 30% of patients, compared to 50-79% with more distal EPs⁵

All EPs are important to diagnose since they are medical emergencies. However, interstitial pregnancies have a higher mortality rate than ampullary or isthmic EP, up to seven times higher^{6,7}. Due to their intramural position and closer proximity to the anastomoses of the uterine and ovarian arteries³, the potential for intra-abdominal haemorrhage is significant.

The Gold standard for diagnosis EP is the TVS. Serum lhCG levels above a detectable threshold for sonographic imaging provide more evidence to confirm a PUL. The threshold for USS was 6,500 IU/L with TAS and is now between 1,000 and 2,000 IU/L with TVS². Our patient's lhCG levels were in excess of the threshold for TVS on each final measurement prior to surgery. The difficult visualisation might have been due to how steeply retroverted her uterus was.

The next step is to decide the form management will take. There is expectant, medical and surgical management. She

did not qualify for expectant management as her β hCG levels were not declining and her initial levels were more than 1,000 IU/L^{2,8}. With medical treatment the level should be below 3,000 IU⁸. Again, her levels were much higher. Surgery tends to be a common management because laparoscopy is used for diagnosis as it was in our patient's case on both occasions. There was no imaging of an intra- or extrauterine pregnancy and her β hCG was rising very high. Surgery was indicated with her β HcG above 10,000IU/L⁹.

CONCLUSION

- Interstitial pregnancies are rare and can be missed radiologically especially in retroverted uteri. They give a false impression of being intrauterine. There should be a low threshold for diagnostic laparoscopy in a non-visualised PUL.
- The experience and competence of the sonographer will have an impact on the results. Diagnosis should be made on the basis of the history, examination and a degree of suspicion. Suspicion should be high if β HcG levels are above the threshold levels for USS visualisation.
- Patients should be counselled regarding the future risks of uterine rupture in future pregnancies following the surgical management of interstitial pregnancies.
- Advise for patients to get early USS following previous ectopic pregnancies should be adhered to and the importance emphasised to patients. Their risk of subsequent ectopic pregnancies increases.

Abbreviations

EP = ectopic pregnancy

PUL = pregnancy of unknown location

TAS = transabdominal ultrasound scan

TVS = transvaginal ultrasound scan

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