



Fibroids - A challenge in Early pregnancy

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Introduction

Uterine fibroid is one of the commonest gynaecological conditions in women of childbearing age. Ultrasound examination is generally used as the first line imaging modality in searching for pelvic pathology in pregnant woman due to its high sensitivity and specificity without exposure to radiation. These machines are now widely available and equipped to generate very accurate and high-resolution images compared to 10 years ago. This is undoubtedly very helpful clinically especially in assessing early pregnancy. However, several factors can affect the quality of the images and subsequently lead to difficulty in reaching an accurate diagnosis. We present a case of a 40-year-old patient with interstitial pregnancy in the presence of multiple fibroids that was unable to visualise on ultrasound but diagnosed using MRI and confirmed during surgery.

Objective

To describe the diagnostic challenges and the management of interstitial pregnancy in a patient with multiple large fibroids, where the use of early pregnancy ultrasound is limited.

Pregnancy & Fibroids

- Main characteristics of fibroids: size, number, location, type and connectivity with the uterus.
- Most fibroids remained unchanged in size during pregnancy, some may decrease in size due to downregulation of oestrogen receptors.
- Common presentations and symptoms of fibroids during pregnancy are pain and pressure symptoms such as increase urinary frequency. Large fibroids and/or more advanced gestation exerts extra pressure to the diaphragm as well as the ureters, which may cause back pressure leading to hydronephrosis.
- Red degeneration of fibroids is a specific complication of fibroid in pregnancy, happening in about 5% of cases (Zaima, 2011). Rare but possible, torsion of a pedunculated fibroid is another differential of acute, severe pain associated with fibroids.
- Obstetric complications includes malpresentation, pre-labour rupture of membrane, preterm labour, obstructed labour, risks of c-sections.

Case Report:

A 40-year-old, nulliparous patient presented to the Early Pregnancy Unit with mild lower abdominal pain and vaginal spotting. Her last menstrual period was 5 weeks ago and had no previous medical or surgical history. She has never had any other investigations. Multiple ultrasound examinations performed by different operators have all failed to visualise the uterine cavity due to multiple large fibroids. Serum beta- human chorionic gonadotropin (hCG) was over 7,000 at presentation, suboptimally raised to 8,000 and then 9,000. Suspicious of ectopic pregnancy was raised and pelvic MRI scan for assessment of pregnancy location was consented. MRI revealed multiple intramural and subserosal uterine fibroids measuring between 5 to 8cm in size. Some of them showed signs of haemorrhagic infarctions. A small area of soft tissue measuring 25x14mm is noted in the right fundal region, which is suggestive of interstitial pregnancy. Following a multidisciplinary discussion, she underwent a laparotomy with resection of interstitial pregnancy and 15 fibroids were removal without complications. She had an unremarkable recovery.

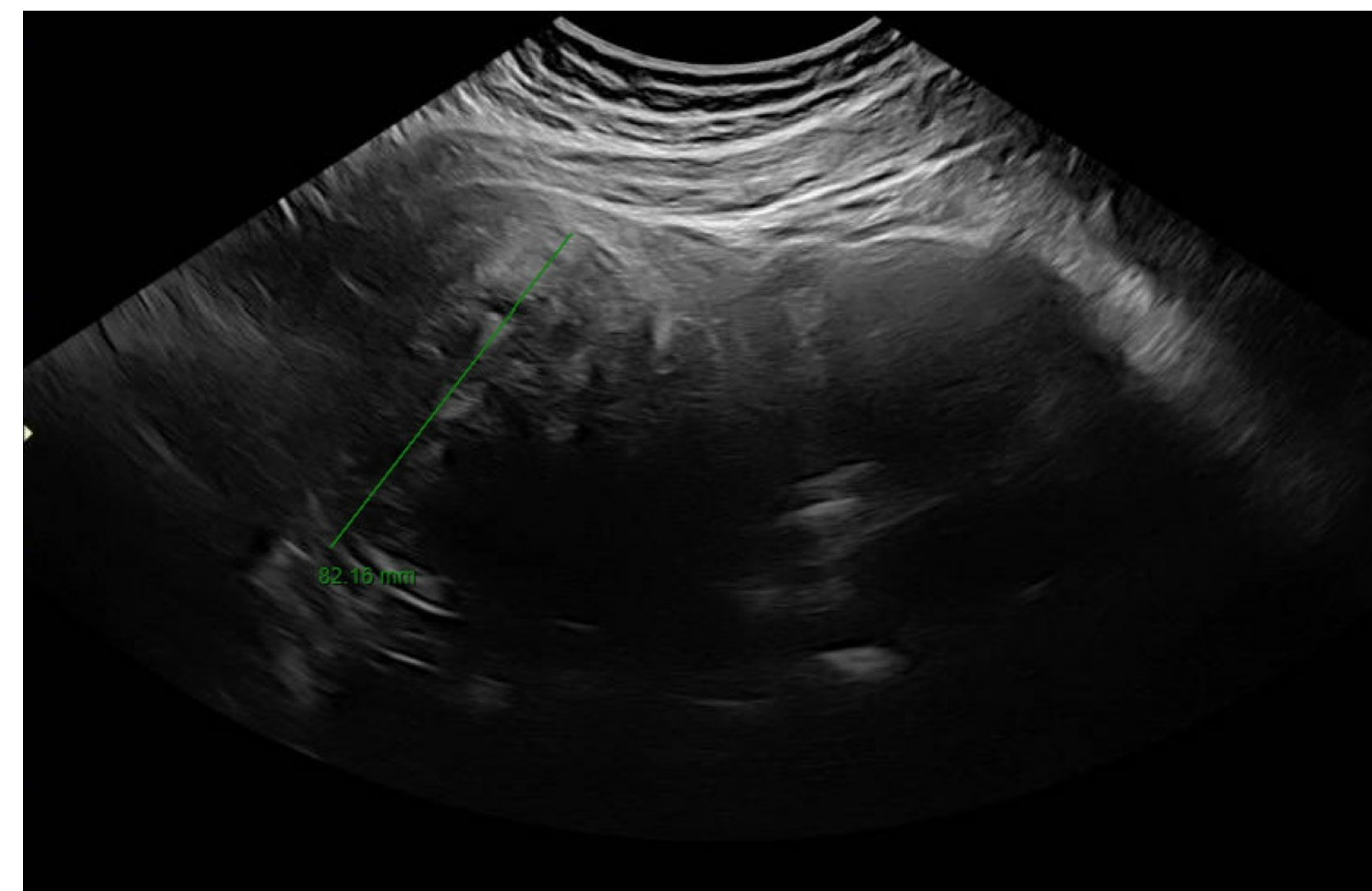


Fig1 – Transabdominal Ultrasound with an 82mm fundal fibroid (green arrow)

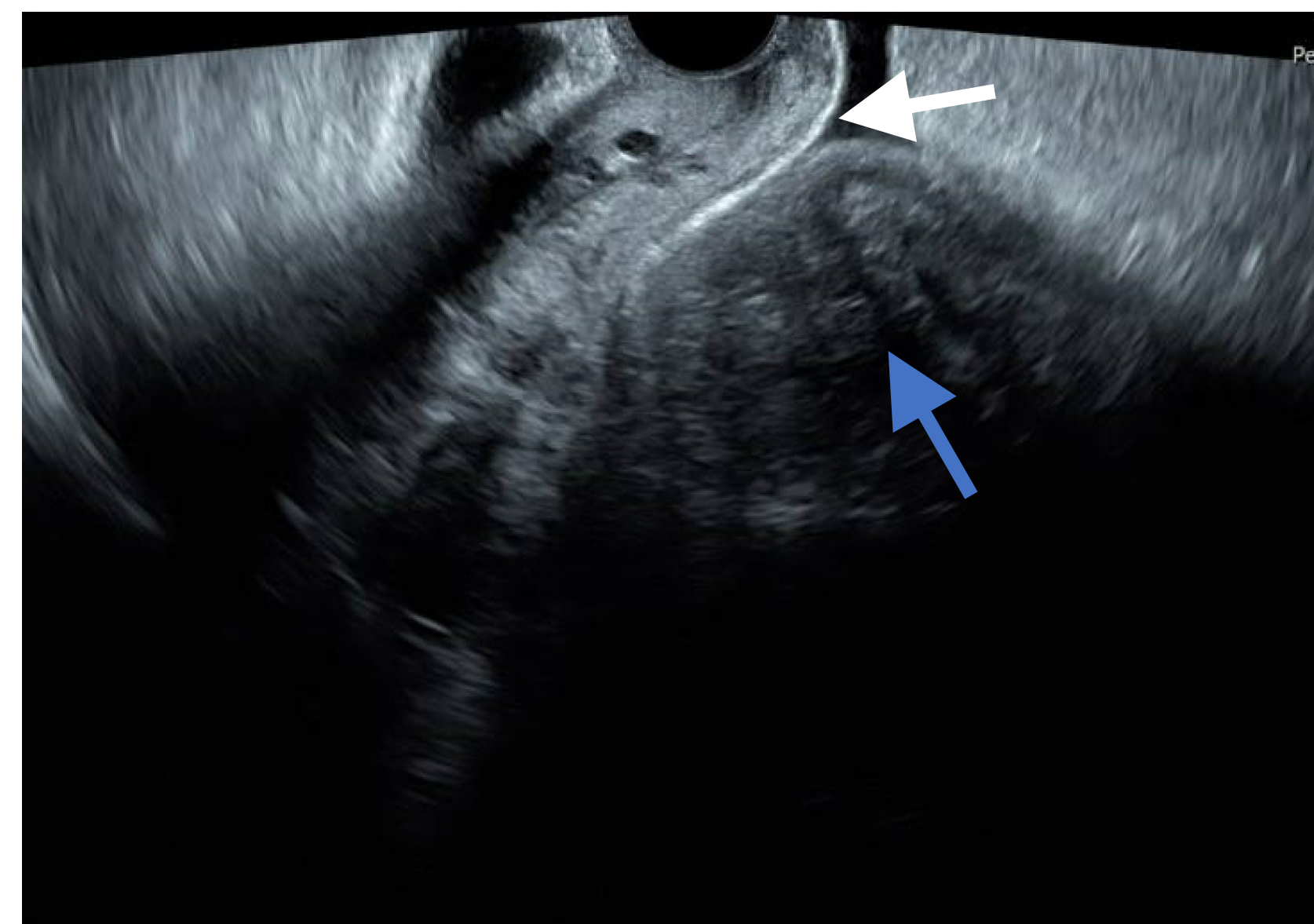


Fig2. – Transvaginal Ultrasound with large fibroid (blue arrow) posterior to cervix (white arrow)



Fig3 – T2W MRI imaging of the large fundal fibroid (Sagittal view)



Fig4 – T2W MRI imaging of the interstitial pregnancy (transverse view)

Discussion

Uterine fibroids may be identified in early pregnancy for the first time in many patients. Their location, size, number and connection to the uterus carry very different implications in pregnancy. Diagnosing early pregnancy complications such as interstitial pregnancy on ultrasound can be difficult in the presence of large, multiple fibroids. In fact, very few cases have been reported in the literature about interstitial pregnancy with associated uterine fibroids.

MRI without using contrast is not associated with any known adverse fetal effects at any point in pregnancy (Prayer, 2023). It can provide an accurate mapping of the fibroids and help to locate pregnancy that is difficult to visualise on ultrasound. However, it is more expensive and limited in availability compared to ultrasound.

Although ultrasound diagnosis of interstitial pregnancy in the presence of fibroids can sometimes be quite challenging, these patients often have a good clinical outcome not only due to the introduction of MRI and a multidisciplinary team involvement, but also the growing expertise of more advanced surgical techniques (Ho, 2020).

Conclusion

The use of MRI in the most difficult cases when the uterine cavity is completely obscured by fibroids can be useful in locating interstitial ectopic pregnancy. It not only provides an accurate location of the pregnancy but also helps planning surgery and prepares for potential challenges.

Reference

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