



Rudimentary horn - a clinical challenge

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Introduction

A rudimentary horn (RH) with a unicornuate uterus results from the incomplete development and failure of fusion of one of the Müllerian ducts. It is further classified into two subclasses by ESHRE/ESGE (Gordts, S. 2013): with or without an endometrial cavity which may be communicating or non-communicating to the main body and cervix. Some sonographic features of RHP in first-trimester have been described by Tsafir, A. (2005) – Uterus may mimic the appearance of a bicornuate uterus, but the absence of visual continuity of the tissue surrounding the gestational sac to the cervix and the presence of myometrial tissue surrounding the gestational sac are suggestive of RHP.

Patients with RH can present with dysmenorrhoea, infertility and pelvic pain. Women with unicornuate uterus are also at risk of other obstetric complications such as preterm deliveries and growth restrictions. Pregnancies within the rudimentary horns (RHPs) are rare, and often under-recognised. RHP is thought to happen through transperitoneal migration of the fertilised ovum or sperm and it has a reported incidence rate estimated from 1 in 76,000 to 1 in 160,000 pregnancies. Standard management of RHP is surgical resection due to its risks of rupture. Unfortunately, many diagnoses are still only made following uterine rupture, which is more likely to happen in the second or third trimester.

We present a series of three cases of RH - two with RHPs and one with pregnancy in the unicornuate uterus. We aim to highlight the diagnostic challenges and raise the awareness in recognising RHP using 3D ultrasound.

Case (1)

A 31-year-old patient, G2P1, previous caesarean section for breech presentation and was found to have a left rudimentary horn at time of surgery. She remained asymptomatic and presented again in her next pregnancy for her routine dating scan appointment and a referral was made due to suspected extrauterine pregnancy. RHP was confirmed on ultrasound. She was counselled on the risks of RHP and underwent resection of RHP and left salpingectomy. No major complication and patient had an unremarkable recovery.

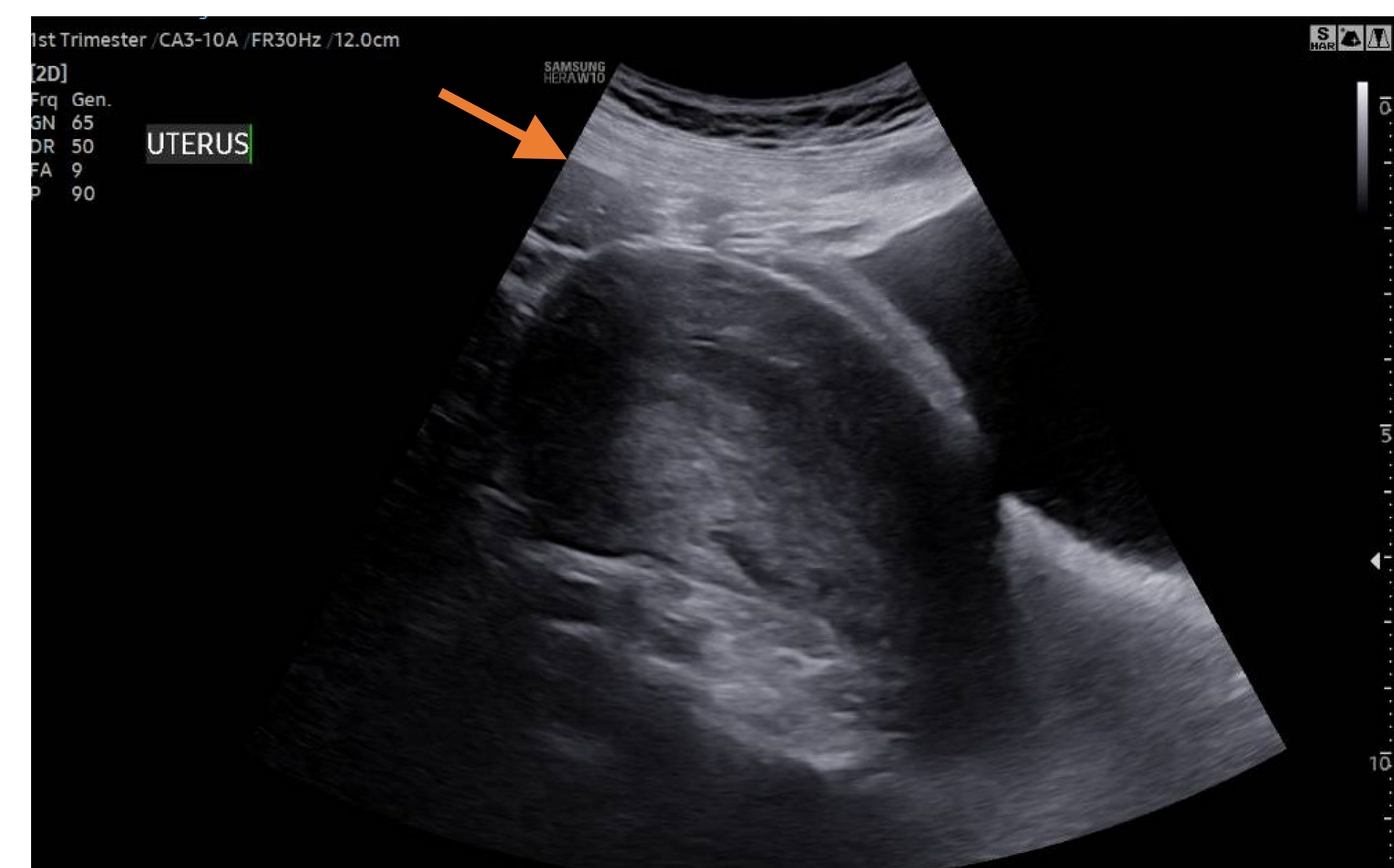


Fig1 – Transabdominal Ultrasound showed an empty uterine cavity (orange arrow)

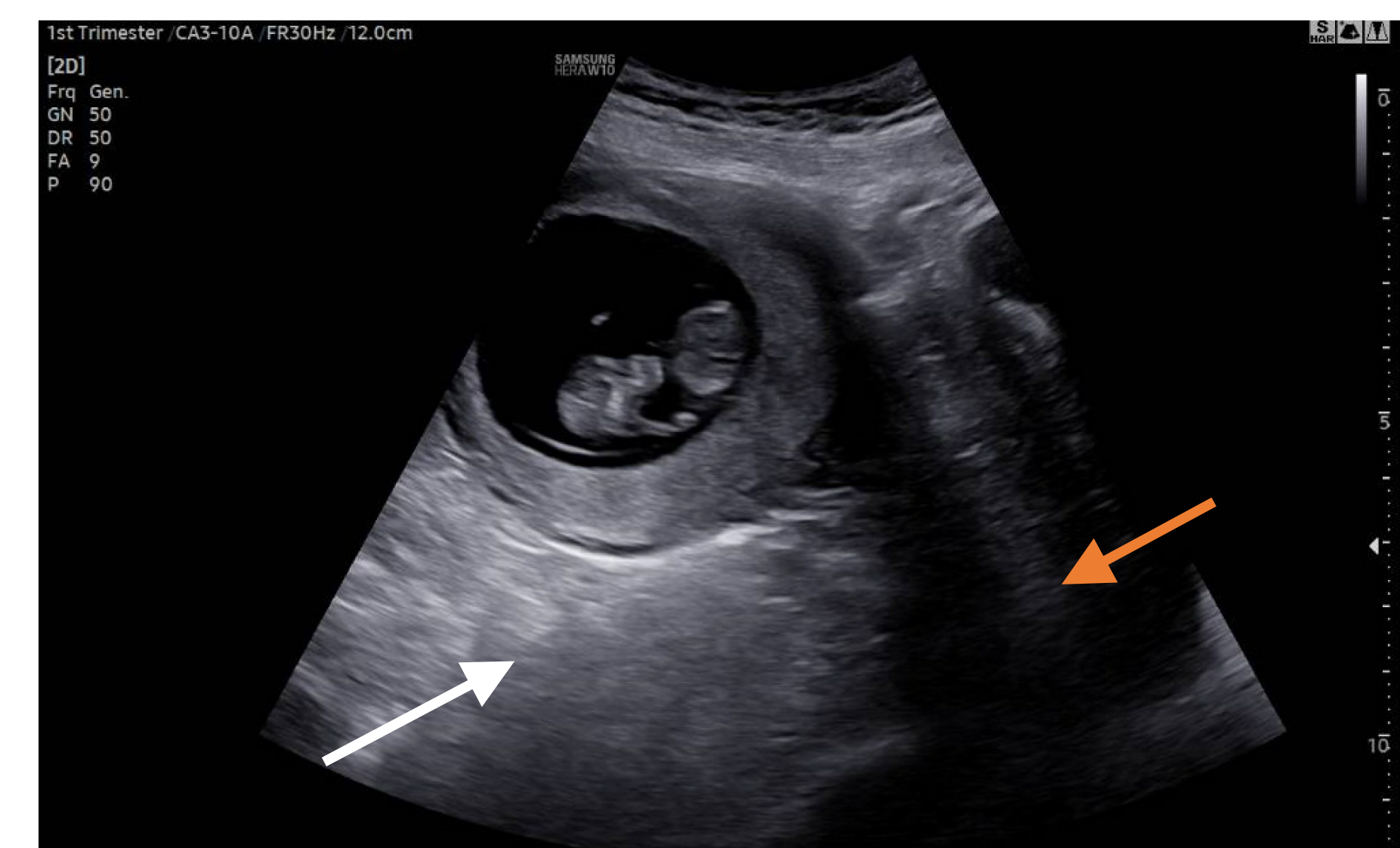


Fig2. – Transvaginal Ultrasound showed the rudimentary horn pregnancy (white arrow), where the gestational sac is surrounded by myometrial tissue .

Case (2)

A 26-year-old patient, primigravida, first attended the early pregnancy clinic with period-like vaginal bleeding and lower abdominal pain. First ultrasound scan reported intrauterine pregnancy of 9 weeks. She returned to A&E with worsening symptoms and a had repeated ultrasound scan showed a displaced uterus and a large adnexal mass suggestive of a live ectopic pregnancy of 10 weeks. She had an uncomplicated salpingectomy with resection of the ectopic pregnancy. Her case was reviewed and RHP was suspected. Further investigation using 3D ultrasound was done post-operatively, which showed a well-developed unicornuate uterus with normal left tube and ovary. RH was then confirmed with myometrium found in histology. She achieved a successful vaginal delivery in the following year.

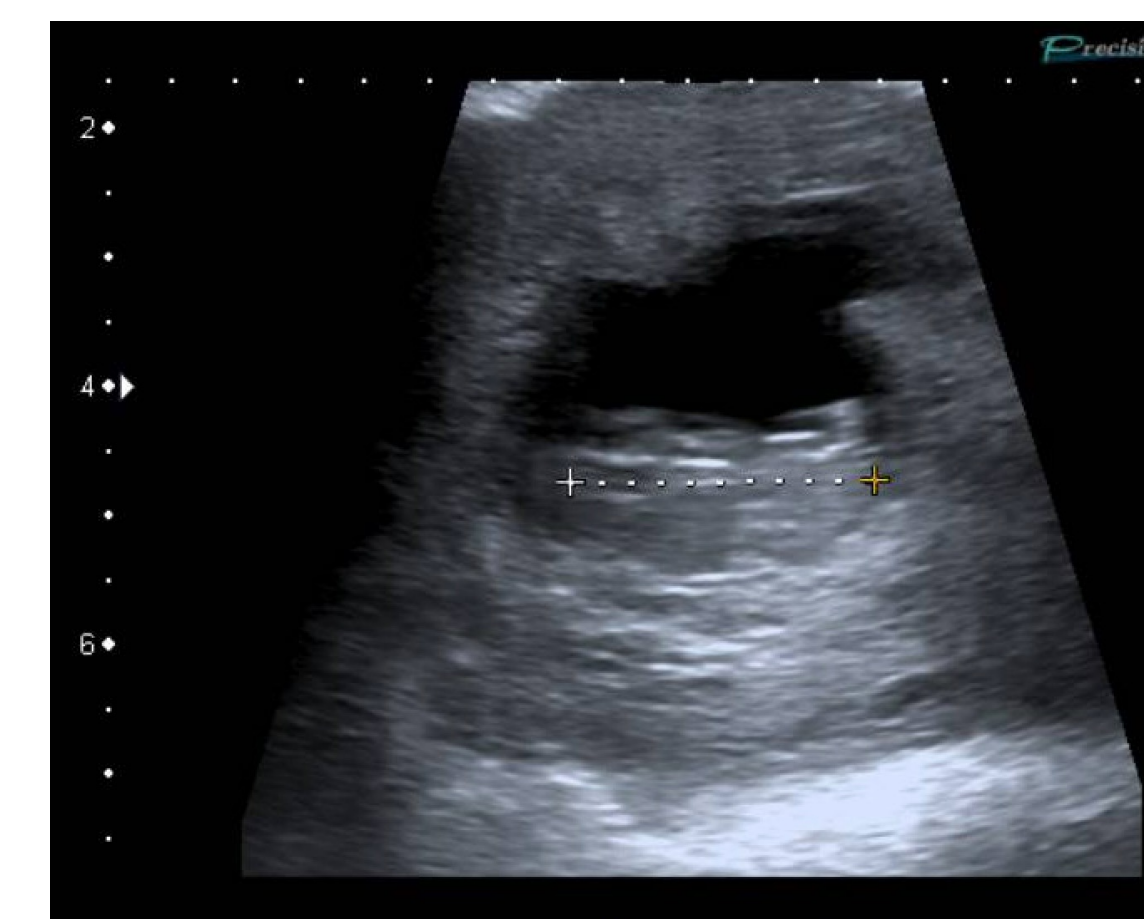


Fig3 – first scan failed to demonstrate the continuity of the gestational sac to the cervix



Fig4 – Second scan (TV) live ectopic pregnancy was seen., but RHP was not diagnosed.

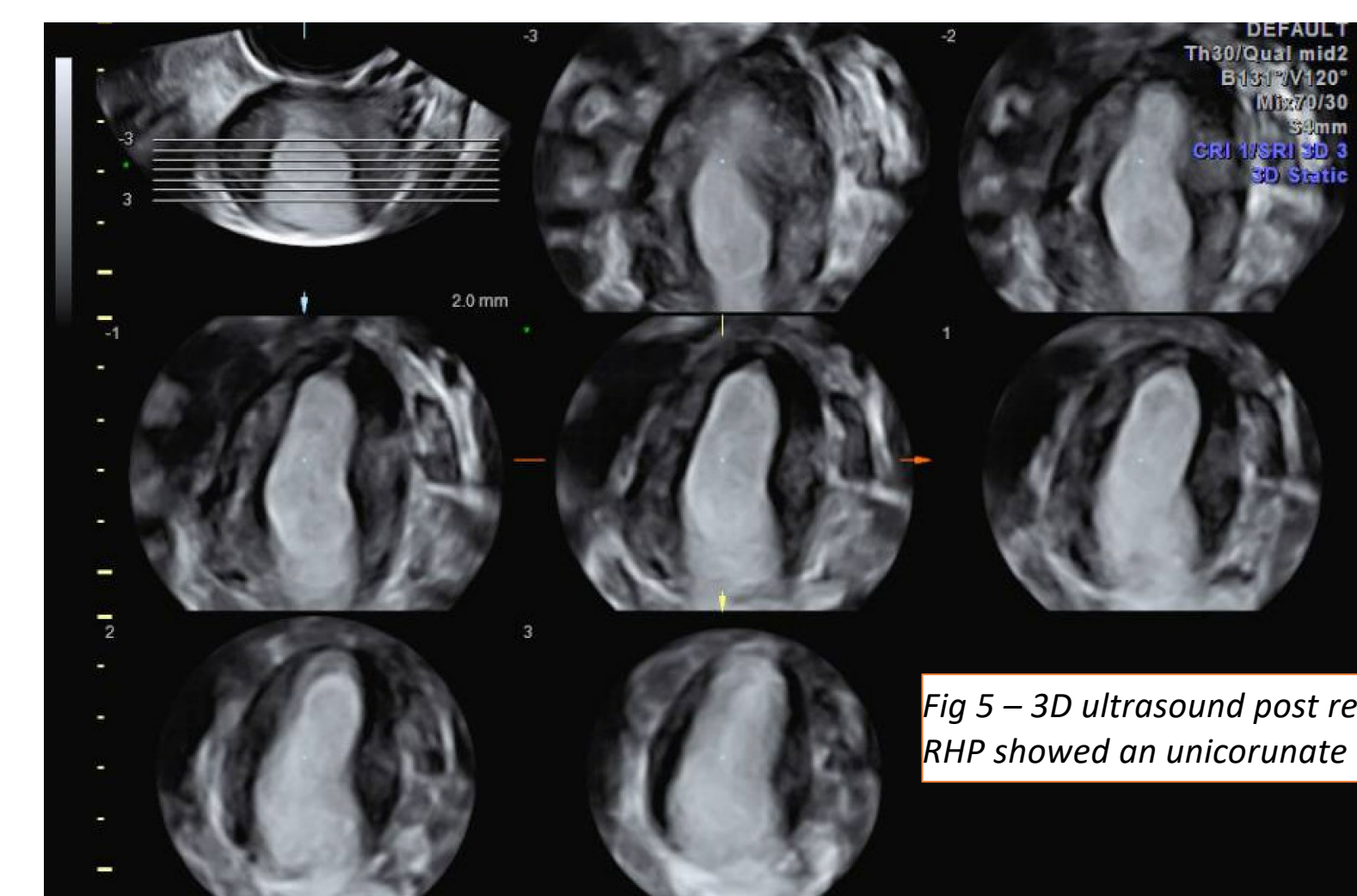


Fig 5 – 3D ultrasound post resection of RHP showed an unicornuate uterus

Case (3)

A 33-year-old patient, primigravida, is known to have a unicornuate uterus with non-communicating left horn confirmed by MRI and previous laparoscopies. She was treated with GnRH for a long standing history of pelvic pain. An early pregnancy scan was done due to clinical history and ongoing left sided abdominal pain. An early Intrauterine pregnancy was seen within the unicornuate uterus. She was monitored throughout her pregnancy and had an uncomplicated caesarean section for foetal concerns. A rudimentary left horn with normal tube & ovary seen at time of delivery. She had further intrauterine pregnancies but outcomes were not known. She developed a large endometrioma with suspected posterior compartment endometriosis 3 years later.

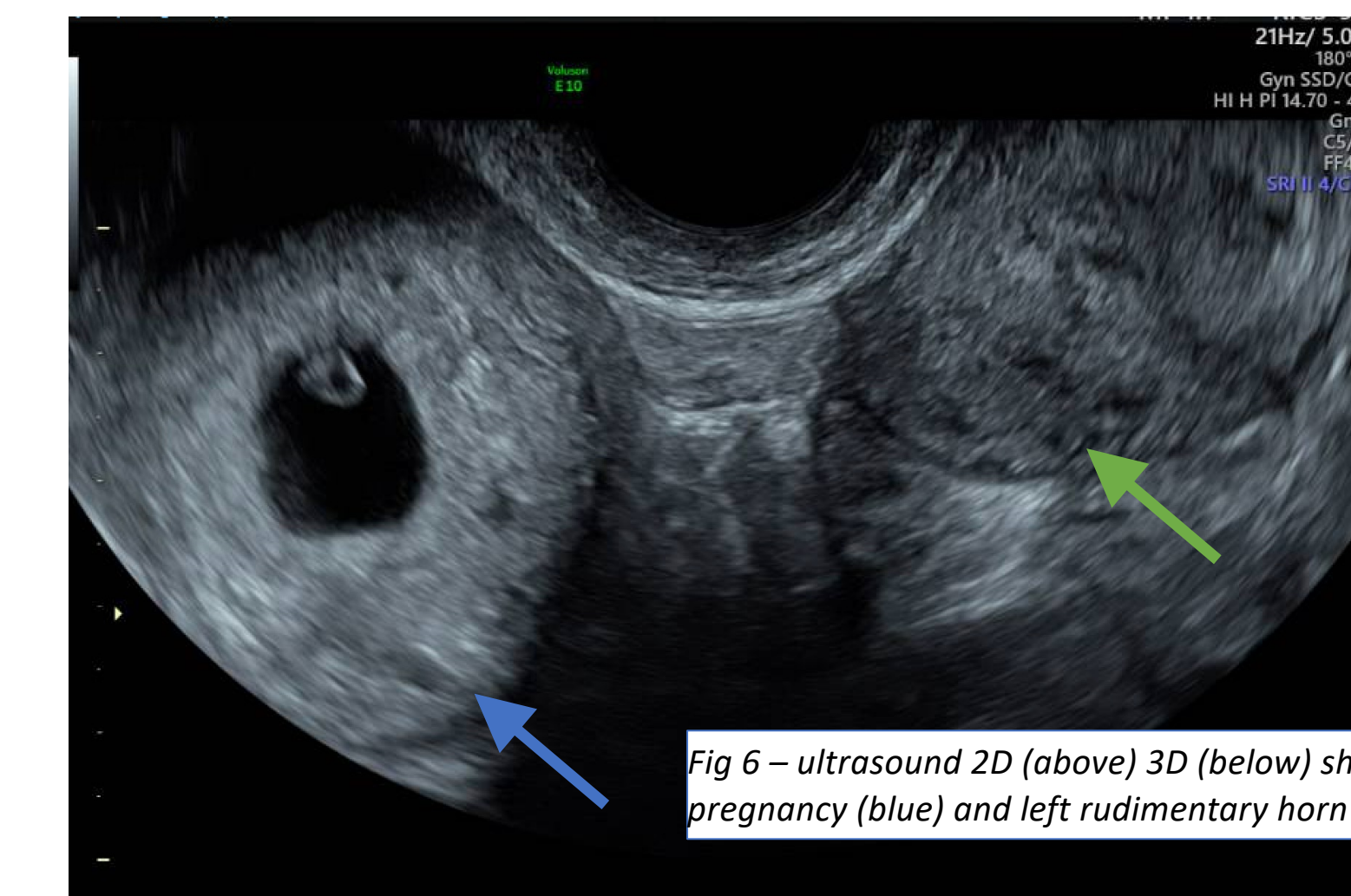


Fig 6 – ultrasound 2D (above) 3D (below) showed intrauterine pregnancy (blue) and left rudimentary horn (green)



Fig 8 – 3D ultrasound demonstrated gestational sac within unicornuate uterus

Discussion

Due to its rarity, RHP remains a diagnostic challenge. Missed or delayed diagnosis is still being reported in the literature and misdiagnosing RHP as tubal, cornual or abdominal ectopic pregnancies is also seen. With the increasing use of 3D ultrasound and MRI, we see great improvements in diagnostic accuracy of uterine anomalies. Training and education help to raise awareness to diagnose RH and RHP early. Young patients should be informed regarding the implications and complications of RH without or without pregnancy, especially when RH is diagnosed incidentally.

Conclusion

The increasing availability and use of 3D Ultrasound and MRI increase the accuracy of diagnosis and having an early diagnosis not only able to reduce the associated morbidity and mortality but may also help to preserve fertility and prevent sequelae in younger patients.

Reference

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