

Introduction

Caesarean scar ectopic pregnancy (CSEP) is a rare occurrence in pregnancy, it's presentation warrants emergent care. While it is the rarest form of ectopic pregnancy, (1:1,800-1:2,216 of all pregnancies), the incidence is increasing (Rotas et al, 2006). This early study highlighted that the increase is most likely due to the growing number of caesareans being performed. In CSEP, the gestational sac (GS) is implanted within the myometrium of a previous caesarean section scar (Rana et al, 2013).

This poster discusses a case where the patient initially presented to the Accident and Emergency Department (A+E), with lower abdominal pain. An overview of her case will be outlined, from initial assessment, diagnosis and management to complete resolution. This case highlights the integral role of the transvaginal ultrasound scan (TVS) in conjunction with serial biochemistry in the management of CSEP. Serial biochemistry involves monitoring the pregnancy hormone human chorionic gonadotrophin (hCG).

Patient Background

A 37 year old lady, Para 3+0 presented to the A+E, with a three hour history of acute onset, severe abdominal pain. She had a history of having 2 spontaneous vaginal deliveries and one elective lower uterine caesarean section for a breech presentation. Her last menstrual period (LMP) and serum hCG levels suggested that she was approximately 6 weeks gestation. A prompt referral was made to the Early Pregnancy Unit for assessment.

Ultrasound Examination

Initially, a transabdominal ultrasound scan (TAS) was performed. This afforded only limited views of the uterus as the bladder was empty. We proceeded to a transvaginal ultrasound scan (TVS).

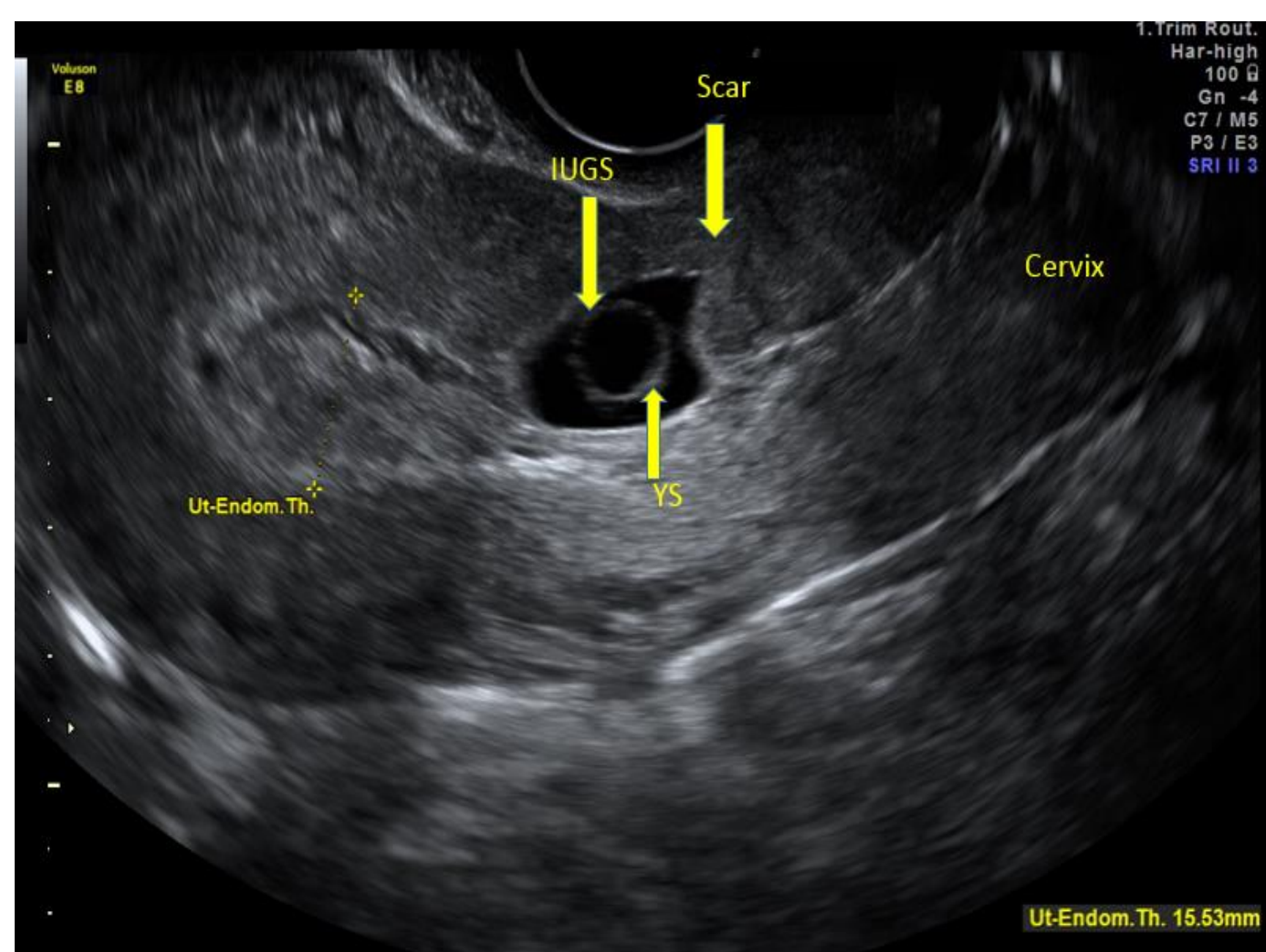


Figure 1: TVS longitudinal view of the abnormal implantation of the IUGS

While the TVS revealed an anteverted uterus and the familiar sonolucent, circular gestational sac (GS) was observed, it was readily identifiable due to the presence of a hyperechoic, circular yolk sac (YS), and an embryo was present. The crown-rump-length (CRL) was 3.3mm, and the mean GS diameter was 14.98mm. It appeared to be abnormally implanted adjacent to the more echogenic scar tissue of a previous caesarean scar. The endometrial thickness (ET) nearer the fundus was 15.5mm, (Fig1). The ovaries and adnexa appeared normal. The hCG was 13399 miu/l.

TV Ultrasound Scan

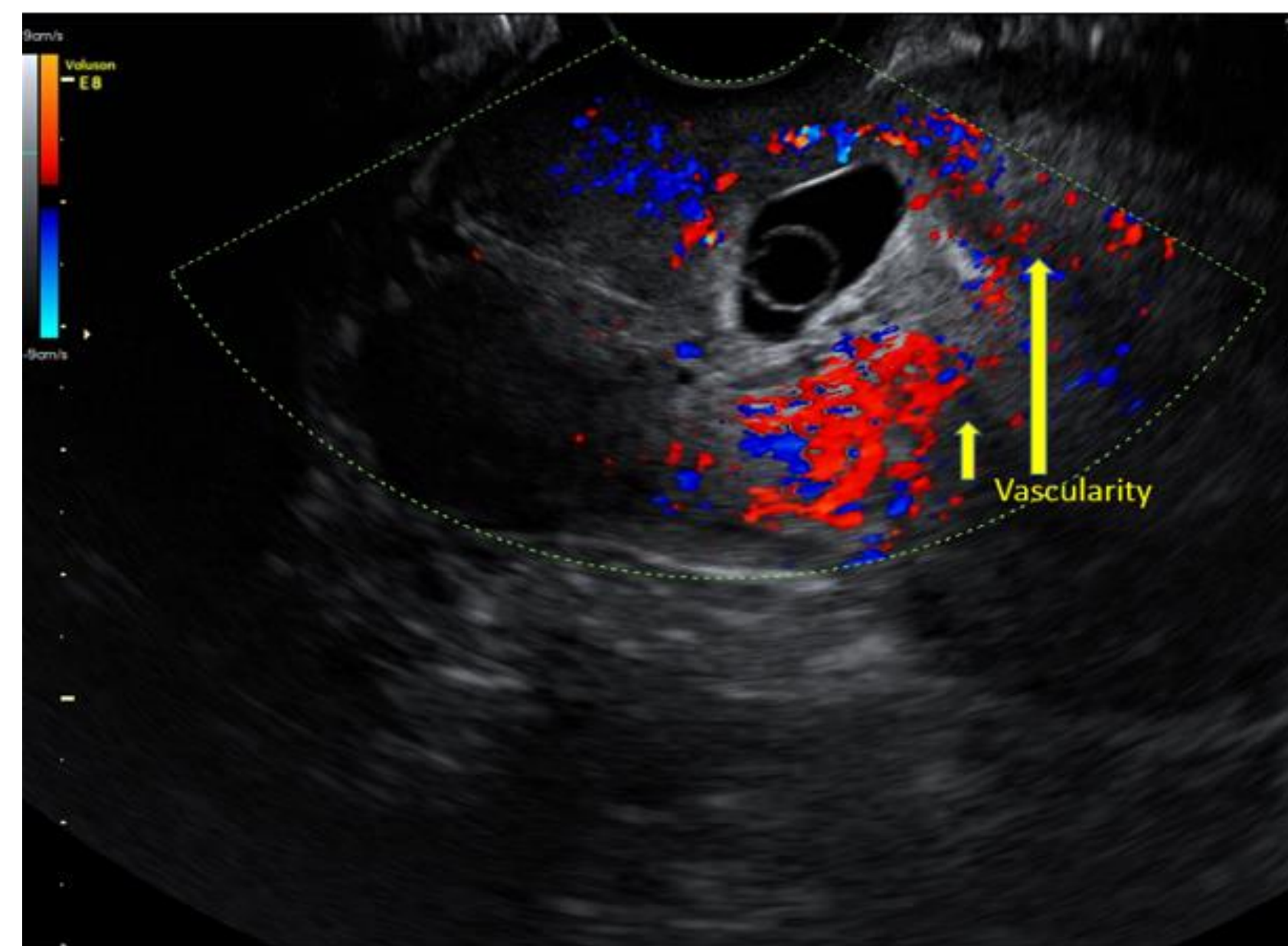


Figure 2: Colour Doppler demonstrates trophoblastic neovascularisation encircling the GS.

Colour Doppler was applied to assess for the presence of vascularity (Fig 2) around the ectopic trophoblast (Honemeyer et al, 2013). The presence of this 'ring of fire' aides in the diagnosis of ectopic pregnancy. This modality was also employed to confirm the absence of cardiac activity.

Repeat scans confirmed no change and a CSEP was diagnosed.

Treatment

A STAT dose of Mifepristone 600mgs was administered prior to the initial dose of Methotrexate (MTX). The combination is considered a potentially therapeutic treatment for CSEP (Gómez García et al, 2015). The MTX was repeated as per the HSE guidelines (2014) when the hCG levels failed to decrease by the desired 15% between day four and seven.

Methotrexate is a folic acid antagonist and works through inhibiting the proliferation of trophoblastic cells (HSE, 2014). It is cost effective and avoids the need for surgical intervention. Medical management was deemed the most prudent management option, minimising the risk of potential morbidity.

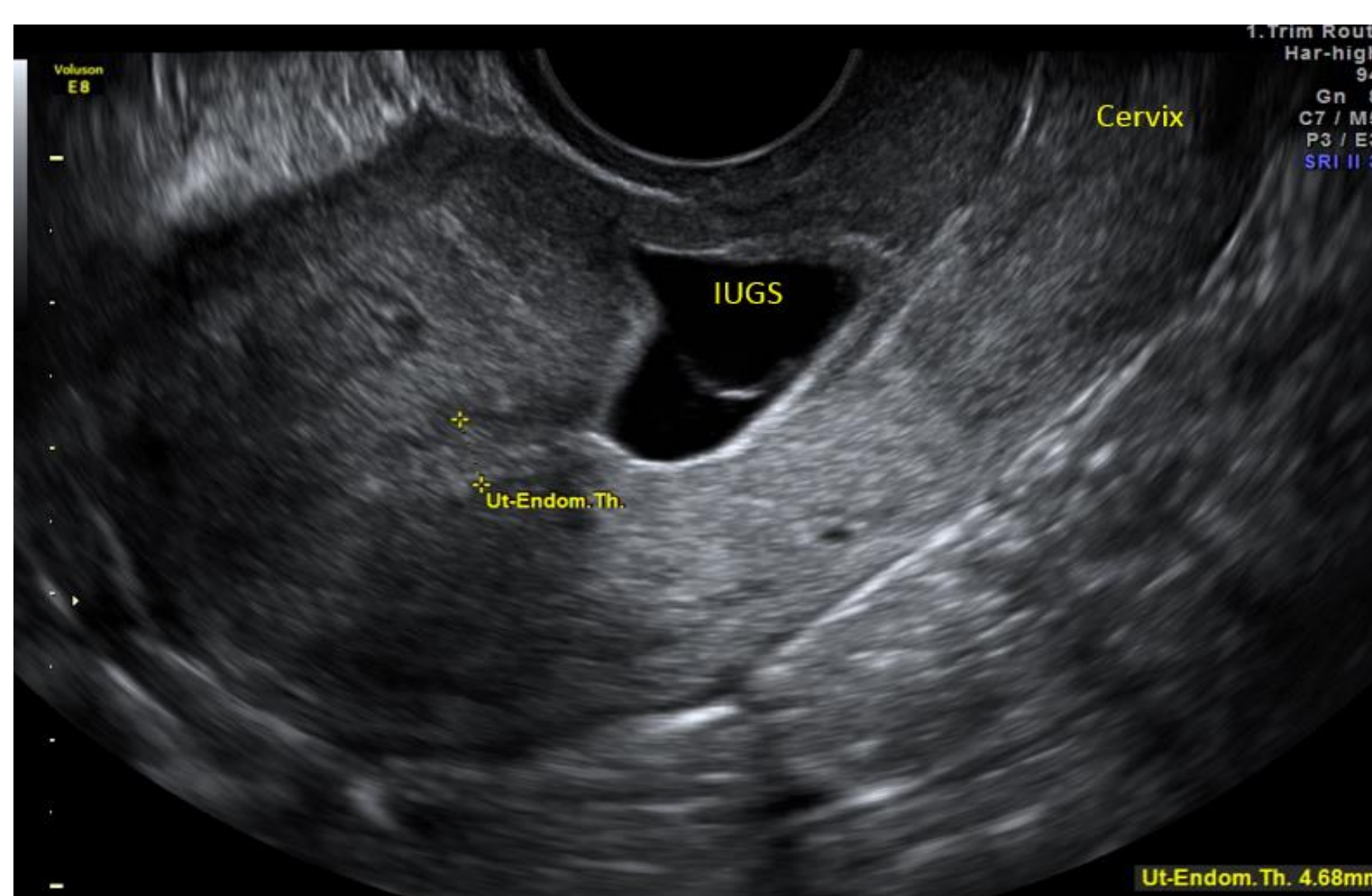


Figure 3: TVS showing CSEP four weeks post MTX

A follow-up ultrasound at one month post repeat Methotrexate (MTX) demonstrates a thinner ET of 4.68mm. The GS has become more irregular in shape, yet remains clearly identifiable, as illustrated in Fig 3. The hCG is 381miu/l at this stage.



Figure 4: TVS seven weeks post Methotrexate. hCG 61 miu/l

Fig 4 over, demonstrates the ongoing intrauterine changes.

Monitoring by TVS over a lengthy twenty week period, continued to demonstrate minimal changes, further supported by a reduction in hCG levels as displayed in Fig.5. below.

hCG Trend



Figure 5: Graphic illustration of serial serum hCG from diagnosis to resolution.

Conclusion

Interestingly, at twenty weeks post MTX, with a hCG of 2 miu/l, a sonolucent area persisted at the LSCS scar site (Fig 6).

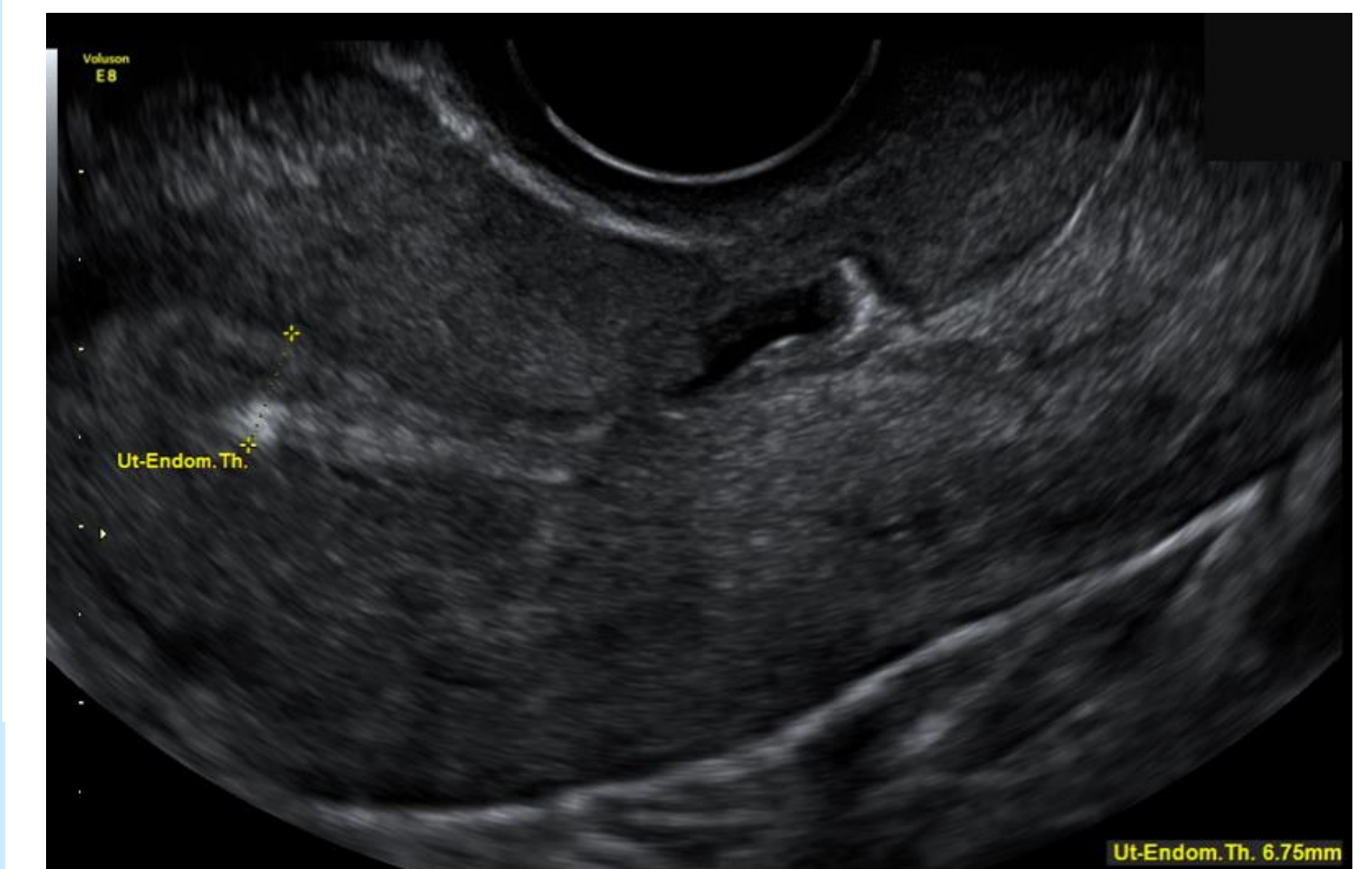


Figure 6: Longitudinal view of CSEP at twenty weeks post MTX, hCG 2 miu/l

A final TVS at eight months post treatment demonstrated a non-pregnant uterus. However, a calcified GS was present at the LSCS scar site as seen in Fig 7 (marked by the yellow arrow).

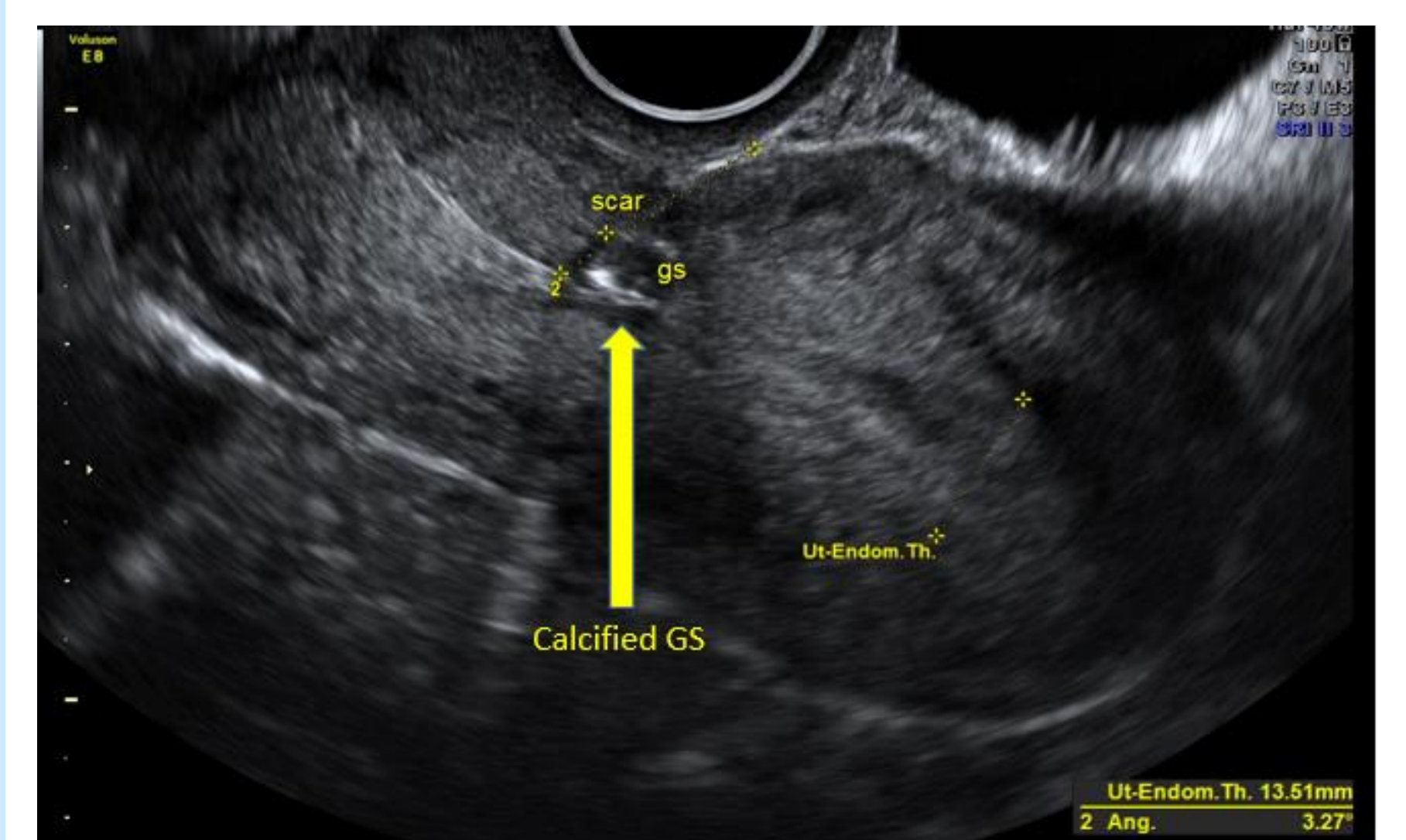


Figure 7: A calcified gestational sac in LSCS scar tissue.

References

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