

A Five-Part Case Series of Caesarean Scar Ectopic Pregnancies: Is Medical Management Best?

Dr A Rahman ST2 O&G | Dr K McCallin ST3 O&G | Dr C Gigi ST6 O&G | Dr K Selby Consultant Obstetrician, Sheffield Teaching Hospitals NHS Trust

Introduction

Caesarean scar ectopic pregnancies (CSP) are rare but potentially fatal, affecting approximately 1 in 2000 pregnancies.^[1]

It is characterised by full or partial implantation of a gestational sac within a scar due to previous caesarean section (CS). There are two distinct types: type one involves the gestation sac growing towards the uterine cavity, whereas type two involves the gestation sac growing outwards through the uterine serosa. Both types are associated with increased complication rates i.e. abnormally invasive placenta or uterine rupture leading to major haemorrhage and/or hysterectomy.^[1]

The use of ultrasound imaging in early pregnancy can enable diagnosis, however optimal management strategies for these pregnancies remains uncertain, in part due to lack of clinical research.

Case Report

We present 5 cases of type 1 caesarean scar ectopic pregnancies that were diagnosed in our local unit between October—December 2021.

The women were aged between 29-44 years of age with previous surgical history ranging from 1 to 3 caesarean sections.

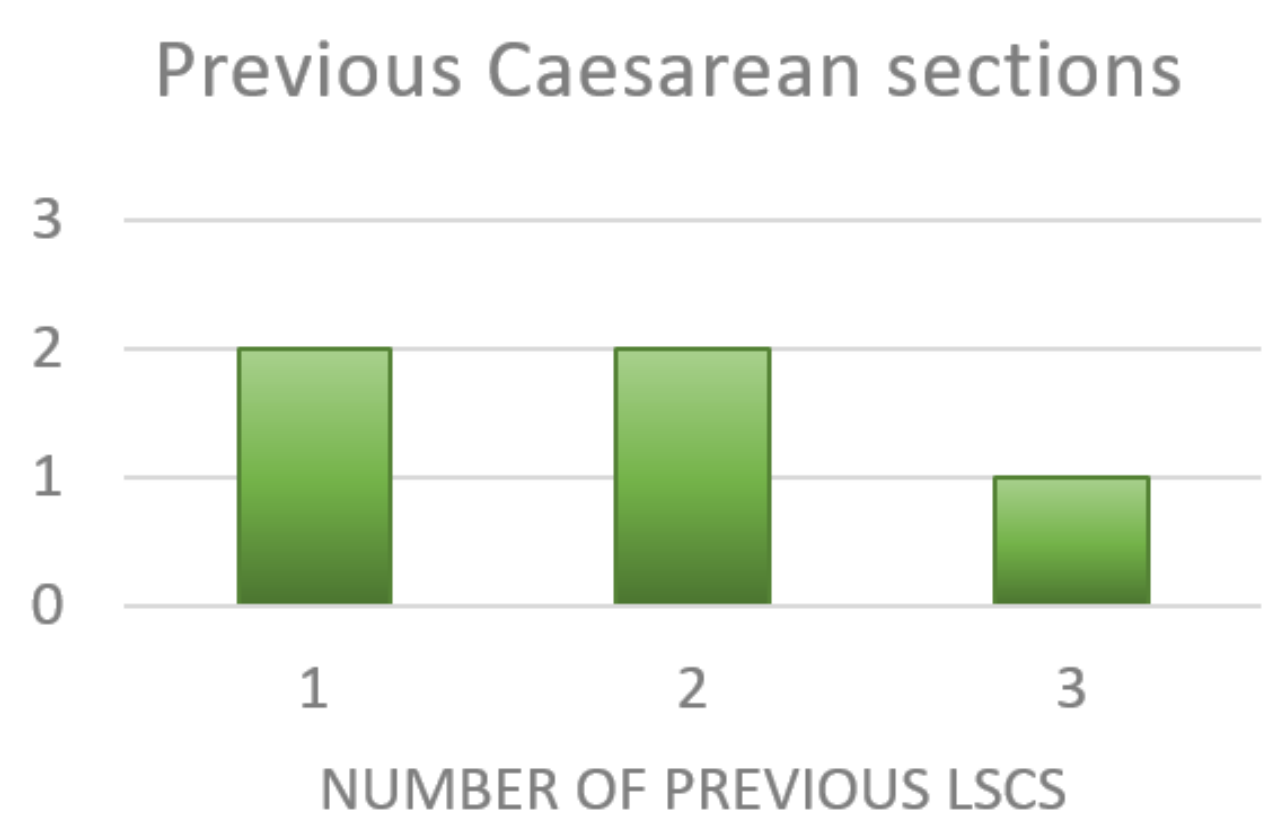


Figure 1: Table showing the number of previous caesarean sections noted in our five cases

The predominant reason for referral to the early pregnancy unit was spotting per vagina with mild crampy abdominal pain.

B-HCG levels at diagnosis ranged between 5847—61800. The mean gestational age was 44 days (38-54)

Ultrasonography was the initial imaging modality of choice used in all patients, with an Magnetic Resonance Imaging (MRI) Pelvis subsequently arranged in two cases following discussion with specialist gynaecological radiology consultant.

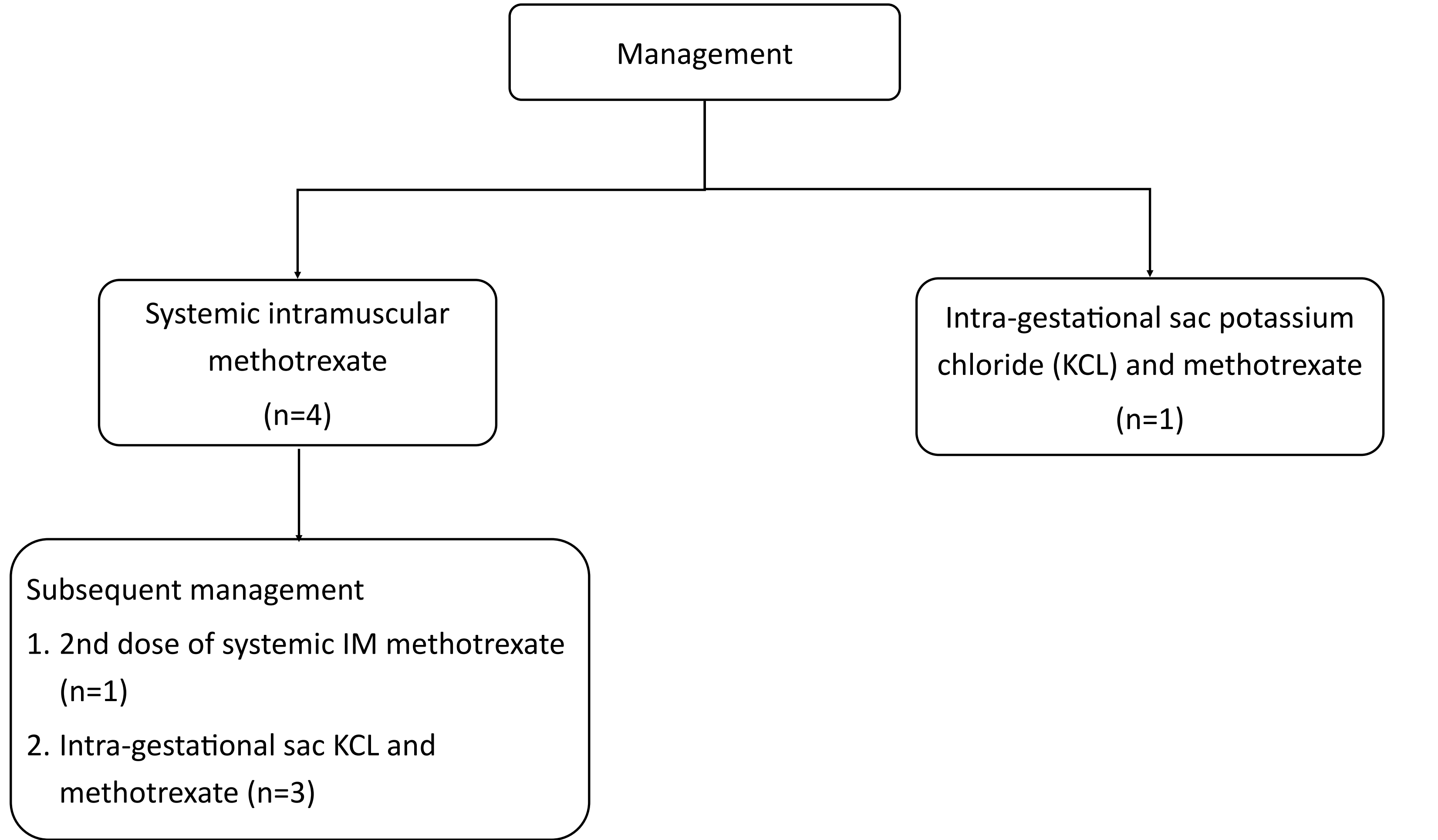


Figure 2: Caesarean scar ectopic seen on ultra-sound imaging^[2]



Figure 3: Caesarean scar ectopic seen on MRI imaging^[3]

1 patient was noted to receive mifepristone and misoprostol due to incorrect diagnosis of miscarriage in view of a low-lying irregular gestation sac around the level of caesarean section scar. This was unsuccessful and a subsequent MRI confirmed the diagnosis of scar ectopic pregnancy.



All patients underwent surveillance with serial B-HCG level monitoring and were subsequently discharged once the levels were below 25 as per local policy.

Discussion

This case series highlights that ultrasound imaging can be used to identify CSP. Some of the features seen on USS include:

- An anterior low-lying gestation sac at the region of previous scar
- Absent/thin myometrium around the sac
- Evidence of decidual reaction extending into the myometrium.^[1]

It is noted that subsequent MRI may be required in some cases which can delay diagnosis and therefore management.

The initial management of choice was systemic methotrexate however, this treatment alone had poor success rates. One patient had successful resolution following 2 doses of systemic methotrexate, however, in this case, the B-HCG was only 5847 at diagnosis.

The administration of intra-gestational sac potassium chloride and methotrexate under ultrasound guidance was noted to be a safe and universally effective treatment with no side effects experienced.

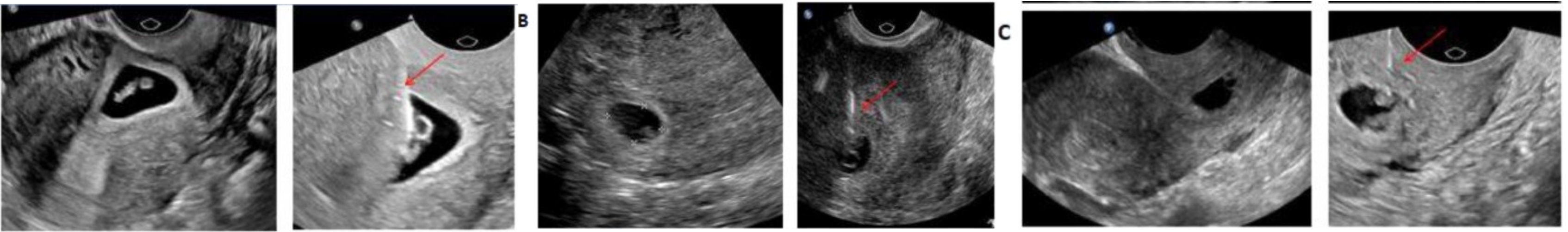


Figure 4: Images showing Ultrasound guided injection of methotrexate into the gestation sac^[4]

Conclusion

The rising incidence of CSP is worrying, and is largely due to increasing rates of caesarean sections.

Current management options include conservative, medical, surgical and interventional radiology, however there is currently insufficient evidence to recommend a universal treatment approach, and patient selection is key to optimise positive outcomes. Conservative management is generally not recommended due to the increased risks of complications.

This small case series demonstrates the effectiveness of intra-gestational sac methotrexate and may prevent the need for surgical management and consequent associated risks, although further research into this area is required.

References

1. E Jr. J. Non-tubal Ectopic Pregnancy [Internet]. London: IntechOpen; 2020 [cited 2022 May 30]. 120 p. Available from: <https://www.intechopen.com/books/8484> doi: 10.5772/intechopen.78860
2. E Jr. J. Figure 1. Transvaginal ultrasound, sagittal view of a gestational sac with a yolk sac within a caesarean scar [Internet]. 2020 [cited 30 May 2022]. Available from: <https://www.intechopen.com/media/chapter/68790/media/F1.png>
3. Weerakkody, Y., El-Feky, M. Caesarean scar ectopic pregnancy. Reference article, Radiopaedia.org. (accessed on 30 May 2022) <https://doi.org/10.5334/rID-13922>
4. Gilbert S, Alvero R, Roth L, Polotsky A. Direct Methotrexate Injection into the Gestational Sac for Nontubal Ectopic Pregnancy: A Review of Efficacy and Outcomes from a Single Institution. Journal of Minimally Invasive Gynecology [Internet]. 2020 [cited 30 May 2022];27(1):166-172. Available from: [https://www.jmig.org/article/S1553-4650\(19\)30140-2/fulltext#relatedArticles](https://www.jmig.org/article/S1553-4650(19)30140-2/fulltext#relatedArticles)