Case study: Expectant management of live CS scar ectopic to third trimester

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Background

In Australia, approximately 40% of women deliver via caesarean section (CS).[1] The high incidence rate also brings about a rise in future CS related complications such as placental accretal spectrum (PAS), uterine rupture, or caesarean scar pregnancy (CSP).[2,3] A CSP is an ectopic pregnancy where the gestational sac either partially or fully implants within the myometrium scar.[2-4] Regardless, the increased incidence of CSP it is still rare with the likelihood of occurrence 1 in 2000 of all pregnancies. [4]

There are several proposed mechanisms that influence the formation of CSP, one such mechanism is that once implantation of gestational sac over the CS scar; the scarred myometrium produces a hypoxic environment that stimulates the trophoblast to invade deeper into the myometrium, possibly causing PAS.[4] CSP has serious maternal morbidity and mortality associated with risks of fetal death, preterm delivery, PAS, uterine rupture, maternal death, severe haemorrhage requiring hysterectomy.[5-7]

The high morbidity and mortality associated with CSP has implication on women wanting to continue pregnancy. They are often counselled and recommended termination of pregnancy during the first trimester.[5-7] Despite, the significant morbidity and mortality associated with CSP some women opt for expectant management and with many documented cases progressing to viable births.[5-8] However, there are no current standardised criteria or predictive indicators in early pregnancy to provide guidance for clinical expectant management of CSP treatments.[7,8] Therefore, it is imperative that extensive counselling regarding risks and managing patient expectations be extended throughout their pregnancy. As this will uphold patient's autonomy and consecrate the faithful clinician-patient relationship.

Case study

The case of GP a 39F G8P4 with an ultrasound confirming a live CSP at 7 weeks and 2 days gestation had opted for expectant management. GP's past history includes a laparoscopy right salpingectomy for a tubal ectopic, 2x suction dilatation and curettage (D+C) for miscarriage, a haemorrhoidectomy and superficial venous thrombosis in her accessory vein during her last pregnancy. The patient's obstetric history consists of four caesarean section; with her first being an elective for placenta praevia, followed by an emergency and x 2 elective CS. Also, she has experienced x 2 miscarriages and a surgical management for her tubal ectopic. She has a BMI of 22 at her booking visit and otherwise no other comorbidities.

Close ultrasound surveillance in first trimester demonstrated a live CSP and a gestational sac (GS) overlying < 2mm of the myometrium. GP was extensively counselled regarding her significant maternal morbidity and mortality associated with her CSP. She had declined termination and chose to proceed with expectant management to reach viability. Early multidisciplinary team involvement in her care was optimal to ensure continuity of care and increase patient engagement. She was closely monitored at a tertiary site with consultant and fetal diagnostic unit (FDU) overview. At 13 weeks and 3 days, GP had a FDU scan demonstrating low lying placenta overlying the previous CS scar with thin surrounding myometrium of 1-1.5mm loss of retroplacental zone with intact bladder. However, at her morphology scan at 21 weeks and 3 days, demonstrated normal fetal morphology and major praevia covering the internal os and a high suspicion of PAS with loss of the myometrial rim and placental now bulging into the bladder spanning over 86x 80mm. She had further ultrasound scans at 27 and 32 weeks gestation, demonstrating an estimated fetal weight (EFW) of 58% and 82% respectively. Further findings on the ultrasound showed a stable major grade anterior placenta praevia and high degree of PAS with vanishingly thin myometrium. There are no parametrial extension however, the lateral aspect of the lower segment scar line is significantly thinned.

GP was closely monitored and recommended a caesarean section and hysterectomy at around 36 weeks gestation based on high degree of PAS and stable placenta praevia apparent in her ultrasound scans. GP consented and was aware earlier escalation and intervention may occur if she were to become symptomatic with labour or vaginal bleeding. Preparation for her CS was optimised with date booked to accommodate skilled clinicians to perform the surgery, advanced booking of intraoperative cell saver, notification of gynaecology oncology team to be on standby and 4 units of crossmatch. The surgery took place at 36 weeks and 4 days gestation under general anaesthetic. Intraoperative findings showed a large placental bulge over the lower segment with extremely thin overlying serosa and high adherent bladder, Normal left tube, and bilateral ovaries. Estimated blood loss was 2.2L with cell saver collecting 2L and 700ml returned to patient. GP received 1g IV Tranexamic acid post delivery of baby. Baby of GP was born in good condition with APGARS of 7 and 9. Postnatal review of GP, she had been doing well not requiring any blood unit and a Hb drop from 114g/L preoperatively to 92g/L. Histopathology findings of uterus and placenta demonstrated placenta increta, otherwise a normal cervix and left tube. Overall, GP had been happy with her outcome as she felt she was able to achieve a delivery and felt supported with her decision.

Conclusion

Although as previously discussed that the incidence of CSP is rare.[5-7] The risk factors includes previous manual removal of placenta, trauma from previous uterine surgeries such as D+C and myomectomy; or two or more previous CS; increases the likelihood of CSP.[9] Multiple CS leads to an increase of uterine scar surface area, which increases the risk of implantation within the scar.[9]

In Australia, the rate of women electing a repeat CS after their first CS is 87%.[1,10] Given recurrent CS is a major risk factor for increased rates of CSP, it is important that all women are fully informed of the implications of their future pregnancies. Furthermore, given there is yet to establish a standardised protocol for expectant management of CSP, health professionals should maintain a duty of care and continue to counsel and inform patients on the significant risks of morbidity and mortality. Clinicians must observe a balance between duty of care and upholding patient autonomy. Overall, shared decision making and advocating patient safety will afford patient satisfaction. As healthcare workers we should familiarise the possibility of untoward sequalae of a CS scar ectopic pregnancy and establishing doctor-patient relationship to increase patient engagement and to overall reduce patient morbidity and mortality.

Reference

1. Australian Institute of Health and Welfare 2018. Australia's health 2018. Australia's health series no. 16. AUS 221. Canberra: AIHW.
2. Shah P, Manandhar R, Thapa M, Saha R. Ruptured cesarean scar pregnancy: A case report. JNMA J Nepal Med Assoc 2019;57(217):209–12.
3. Fu L, Luo Y, Huang J. Cesarean scar pregnancy with expectant management. J Obstet Gynaecol Res 2022;48(7):1683–90.
4. Anant M, Paswan A, Jyoti C. Cesarean Scar Ectopic Pregnancy: The Lurking Danger in Post Cesarean Failed Medical Abortion. J Family Reprod Health. 2019 Dec;13(4):223-227
5. Maheux-Lacroix S, Li F, Bujold E, Nesbitt-Hawes E, Deans R, Abbott J. Cesarean scar pregnancies: A systematic review of treatment options. J Minim Invasive Gynecol 2017;24(6):915–25.
6. Sroussi J, Panchbhaya N, Boujlel S, Dautry R, Tigaizin A, Benifla J-L. Cesarean scar pregnancy with deep serosal invasion at 16 weeks: Uterus-sparing surgery with posterior hysterotomy after transcatheter arterial embolization. J Obstet Gynaecol Res 2018;44(9):1824–7.
7. Brar R, Saha PK, Bagga R. Termination of pregnancy may not be the only option for women diagnosed with live caesarean scar pregnancy at an early gestation: Lights and shadows. Aust N Z J Obstet Gynaecol 2020;60(6):987–8.
8. Timor-Tritsch IE, Monteagudo A, Cali G, Vintzileos A, Viscarello R, Al-Khan A, et al. Cesarean scar pregnancy is a precursor of morbidly adherent placenta. Ultrasound Obstet Gynecol 2014;44(3):346–53
9. Giroux, M., Kamencic, H., Fras, T., McLellan, S., Onasanya, O., Adanlawo, A., Patel, R., & Carson, G. (2020). Expectant management of a viable Cesarean scar pregnancy complicated by uterine dehiscence and massive hemorrhage: A case report and literature review. *Gynecology and Pelvic Medicine; Vol 4 (March 25, 2021): Gynecology and Pelvic Medicine*.
10. *Australia's mothers and babies, Method of birth*. (2023, December 13). Australian Institute of Health and Welfare. https://www.aihw.gov.au/reports/mothers-babies/australias-mothers-babies/contents/labour-and-birth/method-of-birth