

BACKGROUND

- The incidence of Caesarean Scar Ectopic Pregnancies (CSEP) has had an unprecedented growth with the rise in caesarean deliveries and widespread use of ultrasound in early pregnancy. Enhancing the knowledge of treatment options including expectant management, medical and surgical treatments and developing management protocols depending on clinical presentation, β -HCG serum levels and scan findings together with patient wishes will thus prove useful.
- Various basic pathways have been identified in treatment of CSEP: expectant management, medical therapy, surgical intervention, uterine artery embolization, or a combination approach. Expectant management has the highest probability of morbid outcomes, including hemorrhage, uterine rupture, and preterm delivery. Medical management includes systemic methotrexate (MTX) and intralesional MTX and often requires further treatment with additional medication or surgery. Different surgical methods have been explored including uterine artery embolization; dilation and curettage; surgical removal via vaginal, laparoscopic, or laparotomic approach; and hysterectomy. Each method has various levels of success and depends on surgeon skill and patient presentation.
- CSEP is a complicated and potentially life-threatening type of ectopic pregnancy. CSP comprises 0.05% of all pregnancies. Two types of CSP have been defined: Type I (endogenic type) is characterized by a gestational sac implanted in the scar that progresses towards the uterine cavity; type II (exogenic type) is a deep implantation that mainly grows towards the abdominal cavity. Type II is associated with early uterine rupture and vaginal bleeding.

The criteria for the diagnosis of CSP using transvaginal ultrasound were an empty uterine cavity, a placenta or pregnancy sac implanted in the caesarean scar site, a closed cervix and an empty cervical canal, a foetal pole with or without cardiac activity, and the presence of a prominent and at times rich vascular pattern in the area of of a caesarean section scar with a positive pregnancy test.

CASE 1

A 30-year-old Malay multiparous lady attended the antenatal clinic at six weeks of gestation for her routine checkup. She had regular menses and a history of emergency caesarean delivery 2 years ago for foetal distress in labour.

General, abdominal and the pelvic examination was unremarkable. The transvaginal ultrasound (TVUS) was notable for a anteflexed uterus with a gestational sac of 18 mm and yolk sac of 2 mm (Fig1), with no visible fetal pole located on the anterior aspect of the lower uterine segment and a negative sliding sign. Positive color doppler signal uptake in the area and the preserved bladder was noted.

Serum β -hCG level was 1,716 IU/mL. CSEP was diagnosed and after appropriate counseling weighing the risks and benefits, she agreed to medical treatment. The first dose of intramuscular MTX at 1 mg/kg was administered. At routine follow-up on day 5, the patient remained asymptomatic and the serum β -hCG level was 6,890 IU/mL. TVUS showed a gestational sac that increased to 25 mm with yolk sac of 4 mm with no fetal pole. Curettage was subsequently performed under direct hysteroscopic vision in the operating theater, after aspirating the sac at the cervical level with minimal bleeding. On follow-up on the Day 7 post-op, the patient's serum quantitative β -hCG down-trended to 571 IU/mL and then decreased to less than 5 IU/mL on Day 28 post-op.

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CASE 2

A 32-year-old Indian multiparous lady with a history of previous two caesarean sections attended the emergency department with prolonged vaginal bleeding for more than one month and mild lower abdominal cramps. She could not recall her last menstrual period. Apart from mild pallor, she was stable and TVUS revealed an 18mm echogenic mass of which was highly suspicious of ectopic pregnancy at the lower anterior uterine segment. Serum β -hCG level was 170 IU/mL.

Due to mild bleeding and stable haemodynamics, the patient was offered medical management. She was not keen for any intervention and opted for conservative management.

During her routine follow up on day 3, she continued to have irregular mild vaginal bleeding and serum β -hCG level had fallen sub optimally to 145 IU/mL. After extensive counselling, she has agreed to take systemic MTX and had a successful outcome.



Fig 1. Case 1: GS with YS in lower uterine segment near CS scar

DISCUSSION

A CSEP is a developing pregnancy implanted in the myometrium of a previous caesarean delivery scar. CSEP occurs approximately one in every 2000 pregnancies that had a previous caesarean section. The rise of repeat caesarean deliveries and improved technology of sonographic imaging have been associated with an increase in complications of embryo implantation in previous caesarean scars, resulting in CSEP. While most ectopic pregnancies occur in the fallopian tube, pregnancies can also implant in the abdomen, cervix, ovary and cornua of the uterus.

In this case series, each patient received an individualized treatment; the chance of success depended on individual maternal condition, β -HCG level and clinical presentation. Due to the low frequency of this entity, there are no clear protocols for its treatment and thus there exist numerous options for treatment and follow-up.

CASE 3

A 41-year-old Filipino multiparous lady with a history of four previous caesarean sections attended the emergency department at eight weeks of gestation with one week of prolonged bleeding. Abdominal and pelvic examination was unremarkable. TVUS revealed a gestation sac measuring 15 mm with 3mm yolk sac, 2mm fetal pole and fetal heartbeat. (Fig 2) The GS was in close proximity with the caesarean scar, which had a niche depth of 7 mm and residual myometrial thickness of 2 mm. (Fig 3) Serum β -hCG level was 19,626 IU/mL.

The patient then underwent evacuation of suspected scar pregnancy under hysteroscopic and laparoscopic guidance. Intra-operatively, CSEP was noted in the caesarean niche, measuring 3.5cm from cervical external os.

Serum β -hCG level decreased to 7,379 IU/mL on day 1 and then 5.5 on routine follow-up 1 month later. She recovered well post-operatively.

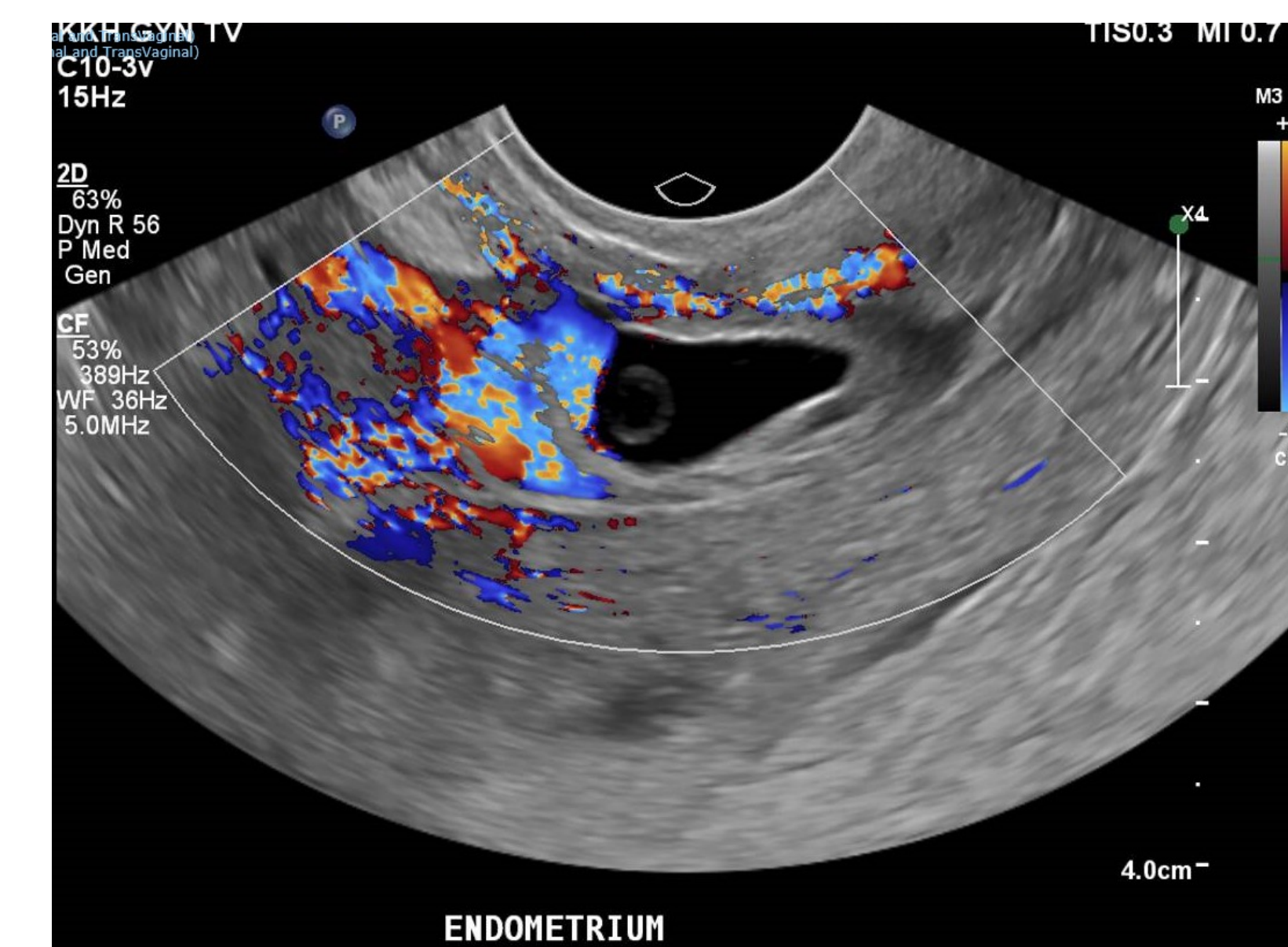


Fig 2. Case 3: GS with YS and FP



Fig 3. Case 3: GS in close proximity with scar niche

CONCLUSION

Herein, we present a rare pathological phenomenon whose frequency is on the rise, for which transvaginal ultrasound and flow Doppler provide high diagnostic accuracy together with β -HCG levels that act as good prognostic indicators. Early diagnosis of Caesarean Scar Ectopic Pregnancies offers treatment options that may help avoid uterine rupture and bleeding, thus preserving the uterus and future fertility.

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