Management of a caesarean scar ectopic - a case report from Alice Springs

Case: **A 37yo G11P5** Aboriginal women from Tennant Creek community.

Obstetric History

1. 1999 IOL NVD 36/40 PET
2. 2003 IOL NVD 40/40 PET
3. 2004 Surgical termination
4. 2011 Surgical termination
5. 2012 Spontaneous miscarriage
6. 2014 IOL 32+1 PET → emLSCS for fetal distress
7. 2015 IOL VBAC 38/40 for poorly controlled diabetes
8. 2016 Spontaneous miscarriage
9. 2018 IOL VBAC 37+5
10. 2019 Surgical termination
11. 2020…

Background Histroy

Past Medical
- T2DM
- Rheumatic Heart Disease
- Pancreatitis

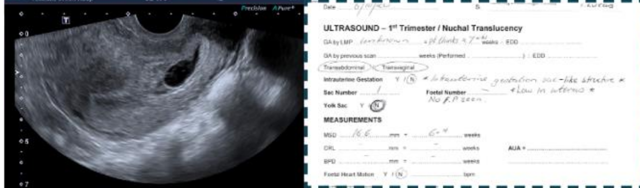
Surgical
- Cholecystectomy
- 1 x LUSCS
- 3 x STOP

Medications
- Metformin 2g nocte
- NKDA

Social
- Tennant Creek
- Lives with new partner, brother and 5 children
- Grandmother looking after children whilst in Alice Springs
- Studying Art

Presentation

Presented asymptomatic for routine dating ultrasound scan at 7 week (see worksheet and image below)



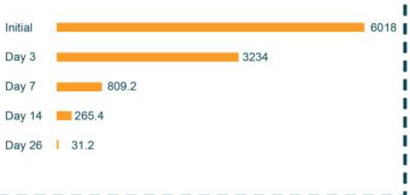
Ultrasound scan repeated 3 weeks later
- appearances suggestive of caesarean scar ectopic (see worksheet and image below)

Image Report

Sac-like structure with an eccentric anterior position along the anterior margin of the lower segment myometrium and lower endometrial canal. Fetal pole of 3.6mm present but no visible cardiac activity. Yolk sac present. No perisac haemorrhage. The position of this is unusual. I note previous C-section and this could be residing in the margin of the C-section scar

Management (after 2nd USS)

- Tennant Creek ED phone call to O+G Consultant
  - urgent transfer arranged to Alice Springs Hospital
- Arrived early following morning
- Initial bloods taken
  → b-hCG → 5039, HB 123, O+, Normal U&Es/LFTs
- PV spotting but haemodynamically stable
- Ultrasound repeated with review by MFM - consistent with caesarean sear ectopic
- b-hCG 6018 (approx 24 hours after initial b-hCG)
  - Case d/w QLD colleagues
  - Decision made to follow RBWH IV methotrexate and Leucovorin treatment plan (see below)



Queensland Government

Royal Brisbane & Women's Hospital

CYTOTOXIC TREATMENT PLAN: (IV) METHOTREXATE + LEUCOVORIN FOR ECTOPIC PREGNANCY

(Complete if applicable)
URN:
Family Name:
Given Names:
Address:
Date of Birth: Sex: ☐ M ☐ F ☐ I

Allergies:
Clinic: Consultant:
Height: Weight:
Named Protocol: (IV) Methotrexate + Leucovorin for Ectopic Pregnancy Date: ___/___/___
Disease Classification: Any stable Ectopic pregnancy at discretion of physician

Medication Regimen	Dose	Signature
References: Tanaka K, Baartz D, Khoo SK. Aust N Z J Obstet Gynaecol. 2015 Apr; 55 (2): 176-80. Tang A, Baartz D, Khoo SK. Aust N Z J Obstet Gynaecol. 2006 Apr; 46(2):107-11.		
Day 1 Methotrexate 100mg IV push over 5 – 10 minutes (Loading dose) Methotrexate 200mg IV infusion over 12 hours in 500mL NaCl 0.9%		
Day 2 **1st dose of Leucovorin:** 15mg orally taken 30 hours post the methotrexate loading dose and then every 12 hours for 3 further doses (timing critical) **2nd dose of Leucovorin:** 15mg orally taken 42 hours post the methotrexate loading dose (timing critical) **3rd dose of Leucovorin:** 15mg orally taken 54 hours post the methotrexate loading dose (timing critical) **4th dose of Leucovorin:** 15mg orally taken 66 hours post the methotrexate loading dose (timing critical)		
Indications: Any un-ruptured ectopic pregnancy especially for interstitial and scar ectopic pregnancy Recommended when: Beta-human chorionic gonadotropin (β-hCG) level >3000 IU/L or foetal sac >3.5cm or presence of cardiac activity. Any un-ruptured Ectopic pregnancy at discretion of physician. **Frequency: Once**		

Special Precautions:
- Ensure Adequate hydration prior to commencing Methotrexate and Monitor FBC, U & E , LFT and β-hCG prior to Methotrexate
- Ensure urine is alkaline (pH > 7.0) prior to commencing methotrexate, then monitor at each void for the duration of treatment and prior to discharge
- Ural for urinary alkalinisation (2 sachets Q6h and prn to maintain pH > 7). Start 24 hours prior to treatment or as soon as practical and continue until final dose of Leucovorin
- Leucovorin (Folinic acid) rescue must commence 30 hours after commencement of Methotrexate then 12 hourly for a total of 4 doses. (Leucovorin (Folinic acid) is not equivalent to Folic acid). Confirm with follow-up call to patient the day after discharge.
- Administer anti-emetics 30 minutes prior to Methotrexate
- Monitor β-hCG level weekly

Treatment and Progress

Day 0	• Urine testing commenced to ensure urine was alkaline (pH>7)
Day 1	• Admitted to ICU for methotrexate infusion
Day 2	• 30 hours post methotrexate loading dose Leucovorin given as per protocol 15mg and then 3 further doses of leucovorin 12 hourly
Day 3	• b-hCG 3234 (6018) • FBC/U&Es normal • LFT → ALT 75 (19 previous -considered likely to be a transient rise induced by methotrexate) • Depo Provera given for contraception • SW review for discharge planning
Day 4	• Increased PV bleeding reported with clot passed
Day 5	• Stable → Discharged to stay in Alice Springs
Day 7	• b-hCG 809

Follow up plan
Patient discharged back home with plan for weekly b-hCG until negative

b-hCG Trend

Initial	6018
Day 3	3234
Day 7	809.2
Day 14	265.4
Day 26	31.2

Progress

Day 26	• b-hCG declined to 31.2
Day 60	• At time of writing patient FTA further blood tests treatment assumed to be successful

Discussion

Here I present a case of an aboriginal women from Tennant Creek who has been managed with IV methotrexate and folinic acid rescue, by day 26 b-HCG had declined to 31.2 the patient failed to attend further blood tests so treatment was presumed to have been successful.
The patient had remained haemodynamically stable throughout the treatment process

Cesarean scar ectopics are a rare presentation ~1 in 2000 pregnancies [3].

They are thought to occur in 6% of ectopic pregnancies in those with a prior caesarean section [3].

Diagnosis is primarily by USS with the appearance of an enlarged caesarean scar with anterior mass [4].

MRI may be useful if invasion is suspected. Possible differentials to the scar ectopic would be cervical ectopic, placenta accreta, miscarriage in transit or low implantation of an IUP [4,5].

The best management of caesarean scar ectopics is unknown, although expectant management is not recommended due to risk of uterine rupture [6].

As with other forms of ectopic pregnancies the whole clinic picture is important and management decisions should take into account haemodynamic stability, desired fertility and reliability of the patient.

References

1. K Tanaka, E Coghill, E Ballard, R Sekar, A Amoako, A Khali D Baartz. Management of caesarean scar pregnancy with high dose intravenous methotrexate infusion therapy: 10 year experience at a single tertiary centre; European Journal of Obstetrics and Reproductive Biology. 2019 Jun: 237:28-32
2. K Tanaka, D Baartz, S K Khoo. Management of Interstitial ectopic pregnancy with intravenous methotrexate: An extended study of a standardised regimen; ANZJOG 2015;55:176-180
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6. A Ash, A Smith, D Maxwell. Caesarean scar pregnancy; BJOG 2007 Mar: 114(3): 253-63

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