Management of Interstitial Ectopic Pregnancy with Two-Dose Methotrexate – A Case Report

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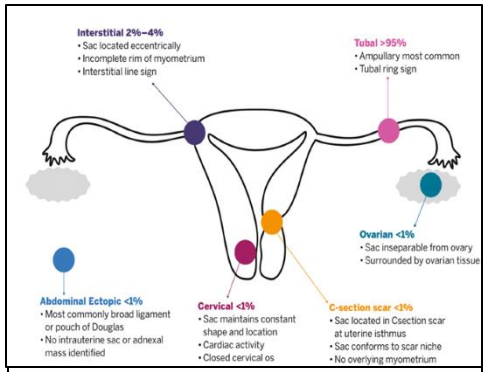
Interstitial ectopic pregnancies, where the pregnancy implants within the muscle wall of the uterus in the proximal portion of the fallopian tube, are rare, occurring in 2-4% of ectopic pregnancies.[1] The two principal management options are medical management with multi-dose systemic or local methotrexate administration, or surgical management, including resection or hysterectomy. The following case outlines the use of two-dose methotrexate for successful management of interstitial ectopic pregnancy.



TYPES OF ECTOPIC PREGNANCIES
Mausner Geffen, E., Slywotzky, C. & Bennett, G. Pitfalls and tips in the diagnosis of ectopic pregnancy. *Abdom Radiol* **42**, 1524–1542 (2017). https://doi.org/10.1007/s00261-016-1020-4

CASE: TD, 33y G2P1 presenting approximately 6 weeks pregnant with per vaginal spotting on wiping, worsening in the last 24 hours. Her last menstrual period is unknown but between 4 to 8 weeks prior.

Obstetrics & Gynaecology History
P1 – Term spontaneous vaginal delivery
- Gestational Diabetes with Insulin

Cervical Screening test – Up to date 2023
Sexually Transmitted Infections (STI) – nil previous

Past Medical and Surgical History
Nil
Normal BMI

Presenting Complaint
She had 1 month history of bleeding, worsening in the 24 hours prior, associated with left-sided, intermittent abdominal pain. She had no symptoms of anaemia, nil referred pain, and systemically well. She had no changes to bowel motions and no lower urinary tract symptoms.

On examination, she was vitally stable – normotensive, no tachycardia and afebrile. Her abdomen was soft, non tender and no signs of peritonism. She had minimal bleeding evident on sanitary pad.

Investigations:
Haemoglobin: 117
bHCG 3646
Blood group: B Positive
STI: Negative chlamydia and gonorrhoea PCR
Otherwise blood tests were unremarkable

Pelvic Ultrasound: 19x21x26mm echogenic hypervascular mass in right uterine corena with thin myometrial mantle < 2mm, suggestive of interstitial ectopic pregnancy. No signs of rupture and not intrauterine gestational sac

TD was admitted and consented for laparoscopy and management of ectopic planned for following day

Admission: After reviewing the images, the clinical impression was a tubal ectopic pregnancy. TD was counselled and offered surgical versus medical management and opted for medical management. TD received a single dose methotrexate, with planned follow-up on day 4 and day 7 bHCG and a repeat ultrasound in 1 week. She was discharged home the same day.

After discharge, the ultrasound images were reviewed by the departments obstetric sonologist and recommended a repeat ultrasound for TD given the diagnostic dilemma of interstitial versus tubal ectopic.

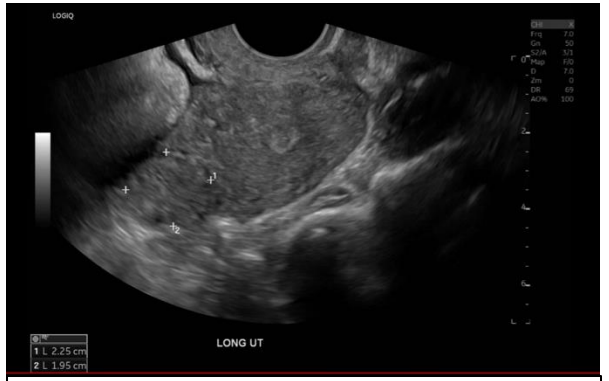


Image 2: US Demonstrating ectopic (2nd US)

Day 3 post methotrexate, she was invited into the emergency department for review, where she remained well, with no signs of deterioration or rupture. **Repeat ultrasound (Image 2)** showed a 2.3x2.0x2.2cm ovoid mass within right cornua of uterus, minimal overlying myometrium with 5ml haematoma within endometrial cavity– consistent with an interstitial ectopic.

Table 1: bHCG Trend	
08/06	4700 (External Laboratory)
11/06	3646 (Admission)
12/06	4037 (D1 MTX 1st Dose)
14/06	3966 (D3 – Repeat dose, new D1)
17/06	2750 (D4 MTX)
20/06	1575 (D7 MTX) – 42% drop
26/06	287
03/07	53
10/07	<2
25/07	<2

Repeat blood tests on readmission were normal with a stable haemoglobin of 112 and bHCG of 3966. In consultation with the patient, the decision was for a second dose of methotrexate.

She was followed up as an outpatient in the Early Pregnancy Assessment Service. Her bHCG appropriately downtrending, with a 42% drop between day 4 and day 7. Her bHCG was subsequently tracked to negative on two consecutive results (**Table 1**). She had a repeat pelvic ultrasound 3 months later showing normal appearance of uterus and L ovary, non-mobile right ovary (potentially secondary to adhesions). She was discharged from our Gynaecology clinic with safety advice and education for future pregnancies.

Discussion: interstitial pregnancies are rare and can pose a diagnostic dilemma. There is inconsistent evidence in the literature about dosing and route of medical management of these pregnancies and further research is required

References:
1. Kampioni, Małgorzata et al. "Interstitial Ectopic Pregnancy-Case Reports and Medical Management." *Medicina (Kaunas, Lithuania)* vol. 59,2 233. 26 Jan. 2023, doi:10.3390/medicina59020233