

A case report of an atypical torsion in the context of a pregnancy of unknown location

Dr Chinthuran Thilagarajan, Dr Brinda Tharmarajah, Dr Kapilesh Balachandar – Gosford Hospital

Introduction:

Ovarian torsion refers to partial or complete obstruction of blood supply to the ovary following rotation on its ligamentous supports, resulting in ischaemia and representing a surgical emergency^[1]. Whilst ovarian torsion can occur in women of all ages, it is most common in women of reproductive age, with its primary risk factor being an ovarian mass, leading to increased risk with polycystic ovarian syndrome, ovarian hyperstimulation management and in pregnancy^[2]. Primarily a clinical diagnosis^[3], pelvic ultrasound (US) is the mainstay of evaluation of patients with suspected torsion. A definitive diagnosis can only be made by direct visualisation of a torqued ovary, at the time of surgical exploration^[2]. Pregnancy of unknown location describes a pregnancy, confirmed with a positive beta-human chorionic gonadotropin (beta-HCG), which cannot be visualised on transvaginal US^[5]. Occurring in 7-30% of women presenting with complaints in early pregnancy^[6], it requires serial US surveillance and interval serum beta-HCG to determine the location of the pregnancy. Yet in a number of women the location is not always identifiable^[7]. Obstetric complications secondary to torsion are not well documented. The incidence of torsion in pregnancy can vary widely based upon the study^[4]. There exists limited published evidence to guide diagnosis, management of torsion and subsequent support for viability of the pregnancy.

Case Report:

A 25-year-old, nulliparous woman, presented to the emergency department of a regional hospital with acute, new onset generalised abdominal pain, localising to the right inferior fossa at five weeks gestation. This is within the context of a previous appendectomy. The patient was haemodynamically stable and afebrile. Whilst she complained of moderate nausea and vomiting, her history was otherwise unremarkable; there were no other significant positive findings on history or clinical examination: her pain had nil colicky component and no radiating characteristic, nil recent history of physical strain, nil palpable adnexal masses and a negative bedside US (FAST scan), demonstrating no free-fluid within the abdomen. Her haemoglobin was recorded at 137 g/L with normal platelets and inflammatory markers. Her serum beta-HCG was measured as 2457 IU. A departmental US demonstrated an echogenic focus within the uterine cavity - representing either an intrauterine gestation or pseudo sac measuring 4.52 mm in diameter (figure 1), without a visible foetal pole or yolk sac. The right ovary was also notably enlarged with ring-like vascularity suggestive of a corpus luteum (figure 2) though there was echogenic free fluid noted in the right adnexa (figure 3), with high clinical suspicion for a ruptured ectopic pregnancy, prompting the decision for a diagnostic laparoscopy. Diagnostic laparoscopy was performed via direct visual entry through the umbilicus. No ectopic pregnancy was identified, however a right ovarian torsion was diagnosed. The right ovary was reduced to its anatomical position with the corpus luteum preserved. The patient had an uncomplicated postoperative course and was discharged home day 2 post-operatively. She was referred to the early pregnancy assessment service to monitor the viability of her pregnancy with serial beta-hCG levels and early pregnancy US. A serum beta-hCG 36 hours postoperatively was measured at 3731 IU, reassuring of an ongoing pregnancy. US scans repeated three days and two weeks postoperatively confirmed an intrauterine pregnancy with appropriate interval, with a yolk sac now visible.

References:

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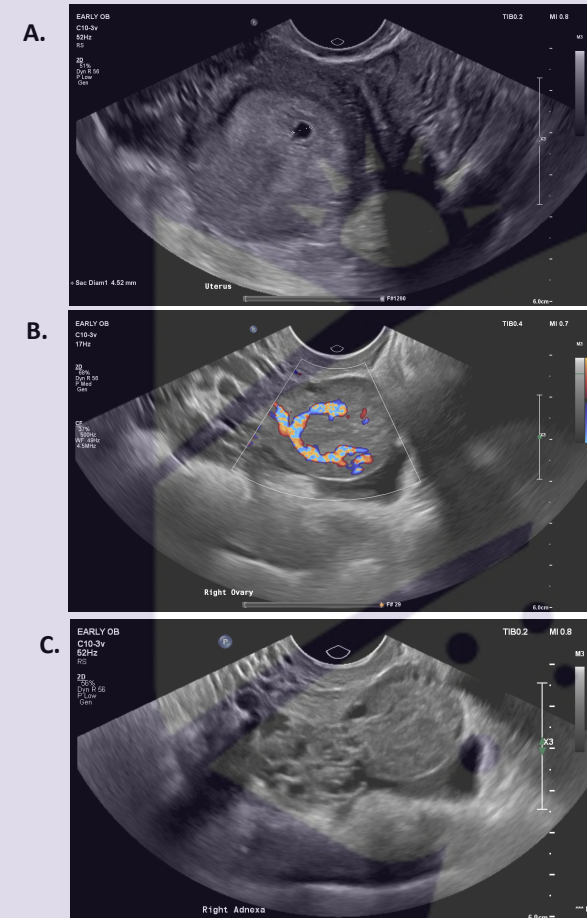


Figure 1:

A: Transvaginal US (TVUS) indicating a small cystic structures measuring 4.52mm potentially representing an early gestational sac with differentials inclusive of a pseudo sac.
B: Right ovary demonstrating overlying “ring of fire” vascularity suggestive of a corpus luteum.
C: Evidence of free fluid within the right adnexa

Discussion:

- Pain in the setting of a pregnancy of unknown location (PUL) poses a difficult diagnosis, indicating the importance of accurately diagnosing PULs utilising beta-HCG discriminatory zones on US, appropriate clinical correlation and highlights the pitfalls of US as an .
- Ovarian torsion remains primarily a clinical diagnosis, relying upon meticulous clinical history and examination technique. Whilst US represents a viable imaging modality, it is not without its limitations.
- The diagnosis of ovarian torsion is further confounded in the context of pregnancy. Further still, torsion around a corpus luteal mass represents a difficult diagnosis, standing as a rare cause for torsion.
- The management of torsion whilst maintaining the integrity of a corpus luteum represents unique challenges to ensure no disruptions are incurred to the physiological support of an early pregnancy.