



Case Report

A 40-year-old multiparous woman presented at 37 weeks’ gestation with a four hour history of severe left-sided abdominal pain and vomiting. There was no known pre-existing pelvic pathology. Vital signs and initial blood tests were largely unremarkable, as shown below.

Observations on arrival	
Blood Pressure	152/81
Heart Rate	74
Respiratory Rate	16
Oxygen Saturation	100% on room air
Temperature	36.4

Blood test	At admission
Haemoglobin	116
White cell count	10.3
Neutrophils	9.1
Platelets	194
C-reactive protein	2
Amylase	113
Creatinine	54

Raised blood pressure was ascribed to pain, as this settled with analgesia and pre-eclampsia was excluded. Her urine dipstick test showed leucocytes and ketones. Urine culture report later showed mixed growth of 3 organisms, whilst microscopy showed scanty white cells, no red cells and numerous epithelial cells.

Her symptoms were attributed to renal colic and she was admitted for conservative management overnight. The following day and prior to any imaging, she went into spontaneous labour. As she had an abdominal cervical cerclage in situ, the team proceeded with delivery by emergency Caesarean section. Intra-operatively, a necrotic left fallopian tube and ovary were identified and a diagnosis of adnexal torsion was recognised. There was no return of tissue perfusion on de-torsion, therefore a left salpingo-oophorectomy was performed [Figure 1].

Histopathological examination demonstrated widespread congestion, haemorrhage and oedema in keeping with ovarian torsion.

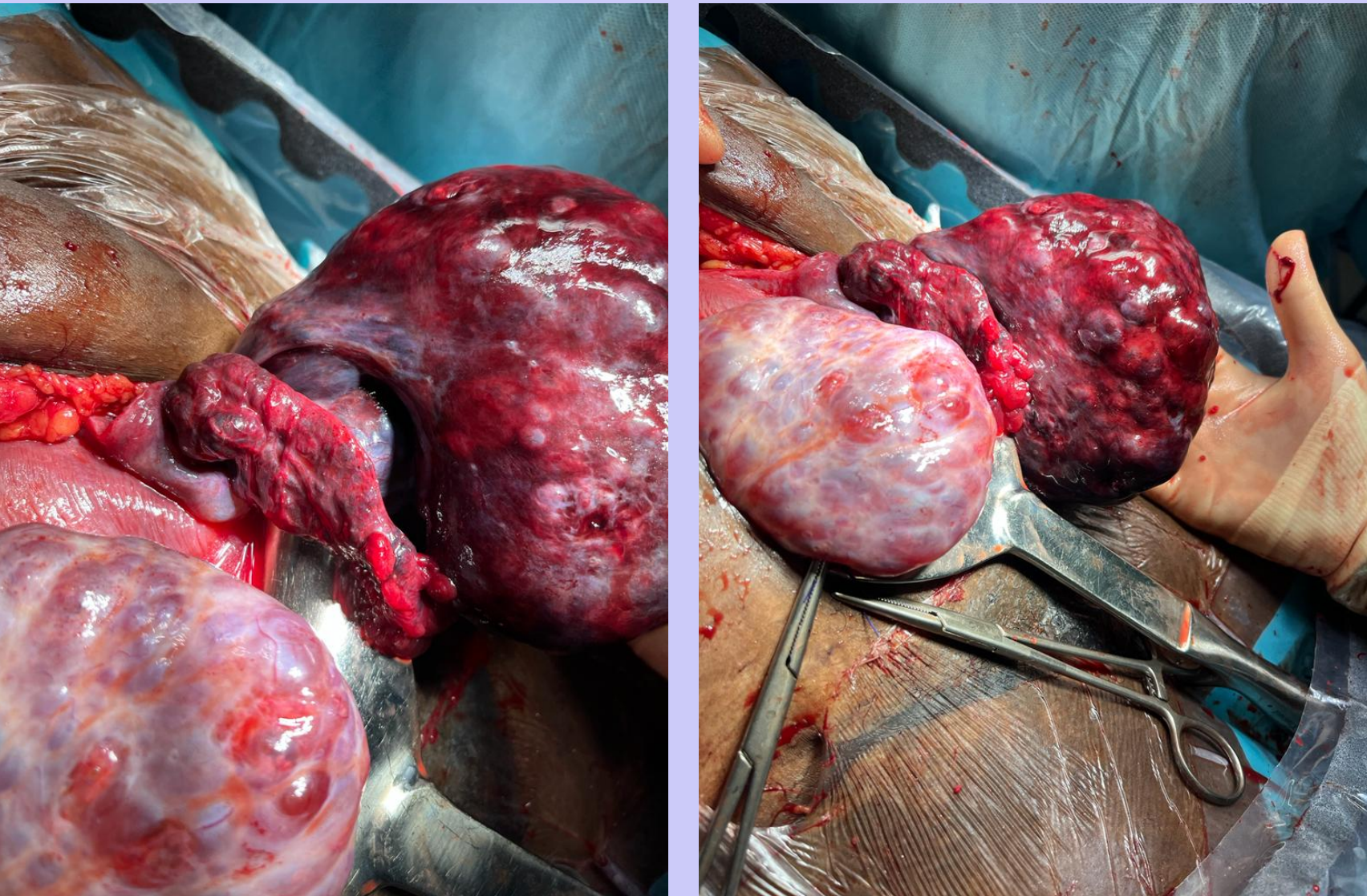


Figure 1: Left Adnexal Torsion identified intraoperatively

Adnexal torsion in the third trimester: a case report and literature review

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Discussion

Adnexal torsion in pregnancy is unusual, with only a minority of cases occurring in the third trimester [1]. This is a challenging diagnosis to establish and requires a high index of suspicion. Prompt intervention is paramount, as delay in management can result in irreversible damage to ovarian tissue. Differential diagnoses for abdominal pain in the third trimester are shown below.

Obstetric
- Labour - Uterine rupture - Placental abruption - Pre-eclampsia (HELLP syndrome) - Acute fatty liver of pregnancy - Chorioamnionitis - Ligament pain

Non-obstetric
- Adnexal mass +/- torsion +/- cyst rupture - Pelvic inflammatory disease - Upper +/- lower urinary tract infection - Renal +/- ureteric calculi - Appendicitis - Gastroenteritis - Diabetic ketoacidosis - Constipation - Traumatic injury

In this case, the delayed diagnosis of adnexal torsion resulted in irreversible loss of ovarian tissue. This was likely the result of deceptively normal blood tests, normal maternal observations and misleading clinical symptoms. Prompt ultrasound and/or MRI may have been helpful in establishing a diagnosis, however we recognise that both out-of-hours imaging services and maternity staff training in pelvic ultrasound are limited.

Whilst ovarian torsion in the third trimester is unusual, there are common themes in clinical presentation which should alert to the possibility of this emergency. Our suggested approach to suspected adnexal torsion in the third trimester is shown in Figure 2.

Literature Review

On review of 21 cases of adnexal torsion in the third trimester published over the last 10 years, the symptoms reported are summarised below [2-22]. A raised white cell count was only noted in 17% of cases. All cases were investigated with ultrasound. An MRI was performed in 5 cases and it aided diagnosis and management in all cases but one [3]. 28% of cases were managed laparoscopically and 72% were managed through laparotomy. In 64% a concurrent Caesarean section was performed and 50% of cases were managed with salpingo-oophorectomy.

Symptom described	Frequency with which the symptom is reported (n of case reports in the last 10 years)
Pain	100% (21)
Unilateral pain	86% (18)
Nausea	33% (7)
Vomiting	38% (8)
Fever	0.05% (1)

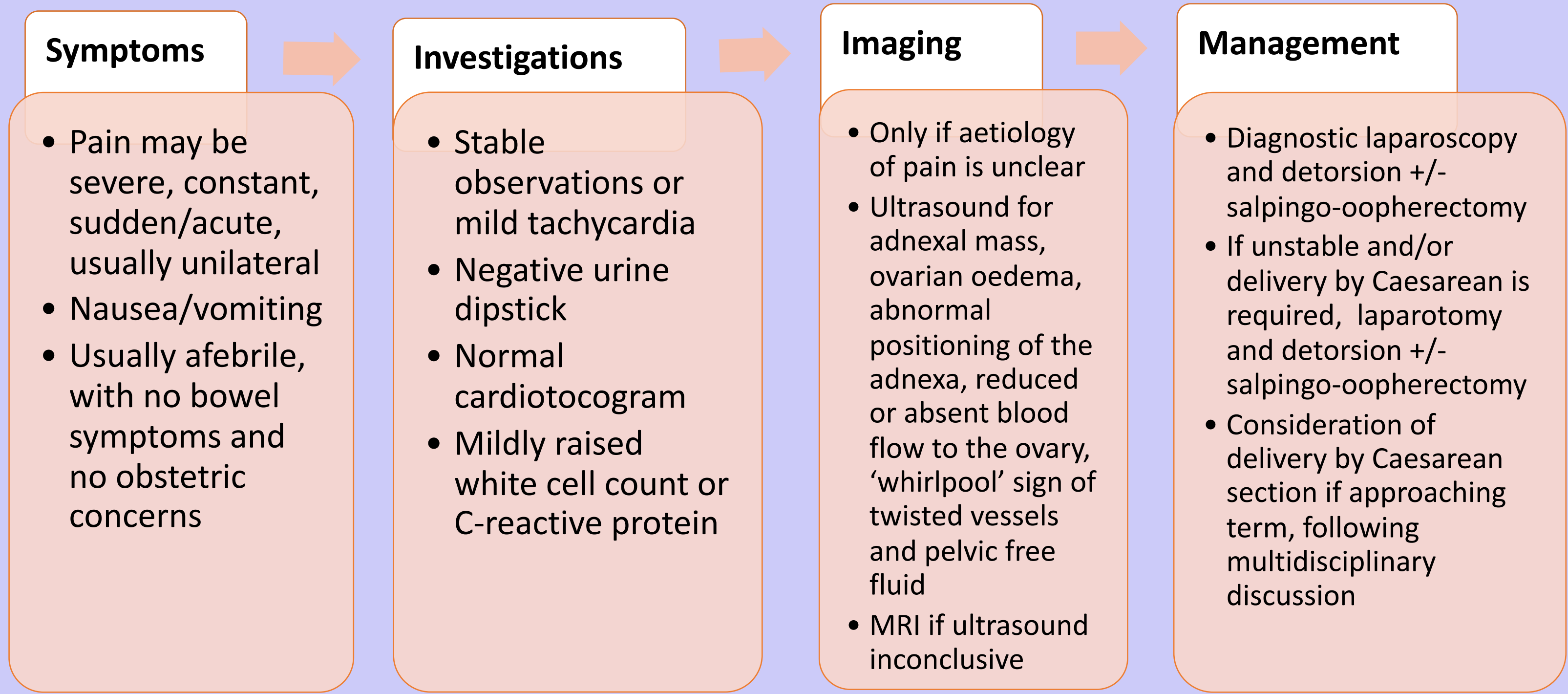


Figure 2: Schematic Approach to Suspected Adnexal Torsion in the Third Trimester

Learning points

- ✓ Clinicians must have a high index of suspicion for adnexal torsion when assessing acute, severe pain in the third trimester which cannot easily be explained by labour or other pathology.
- ✓ “Loin to groin” pain should not automatically be ascribed to renal colic unless there is convincing evidence of renal tract calculi.
- ✓ Ultrasonography is a safe imaging modality which can substantiate the diagnosis of adnexal torsion in pregnancy. MRI should also be considered if the diagnosis remains unclear.
- ✓ Definitive diagnosis of adnexal torsion can only be made intraoperatively, and prompt surgical management is essential.

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