Surgical causes of acute abdominal pain in pregnancy

Abdominal pain in pregnancy is common, with a differential diagnosis that can encompass obstetric, surgical and medical conditions. This infographic offers clinicians an overview of some of the key aspects to recognising and investigating surgical causes of acute abdominal pain in pregnancy.

Early consideration is critical

Surgical conditions, such as appendicitis and bowel obstruction, are uncommon, but clinicians need to be alert to the possibility of them and aware they can present differently in pregnancy.

A mother will be anxious regarding the reason for the pain and the risk to her baby.

Consideration of surgical causes of abdominal pain will allow for early diagnosis, improving outcomes for mother and baby.

Assessment of abdominal pain should include:
- Past obstetric, medical, surgical and family history
- Possible trauma
- Site and radiation of pain
- Quality of pain
- Duration/timing of pain
- Exacerbating and relieving factors
- Associated symptoms
- Investigations: bedside, biochemical and imaging

Screening and diagnosis

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Signs, symptoms and investigations

- **Biliary colic/cholecystitis**
  - Right upper quadrant or epigastric pain; pain radiating to the back or flank; Murphy’s sign
  - Biochemistry (inflammation), liver function (obstructive jaundice)
  - Transabdominal ultrasonography; retrograde cholangiopancreatography

- **Ureteric obstruction and pyelonephritis**
  - Flank or back pain; features of sepsis
  - Urinalysis (leucocytosis, microscopic haematuria), biochemistry (sepsis, renal impairment)
  - Ultrasound and/or MRI

- **Bowel obstruction**
  - High-pitched or absent bowel sounds; nausea; vomiting; colicky abdominal pain; abdominal distention; constipation
  - Biochemistry (electrolyte imbalances, renal impairment)
  - Ultrasound and MRI

- **Appendicitis**
  - Nausea, vomiting and anorexia; colicky periumbilical pain; pain in the right upper quadrant
  - Urinalysis and biochemistry (inflammation)
  - Ultrasound and/or MRI

- **Rupture of visceral artery aneurysm**
  - Severe acute abdominal, intrasacral or back pain; dysuria; unexplained collapse
  - Urinalysis (may reveal microscopic haematuria)

10 key takeaways

- Conduct a thorough evaluation, including history, vital signs, bloods and imaging
- Bear in mind pregnancy-specific physiological changes during assessment
- Remember that pain may change over time, so regular re-evaluation is important
- Involve a senior surgeon early on if a surgical condition is suspected
- Ensure a woman is fully informed of the advantages and disadvantages of any proposed treatment options
- Don’t be quick to attribute symptoms to obstetric complaints
- Don’t delay treatment by requesting imaging if the patient is unstable
- Don’t forget to determine priorities for the mother and baby before agreeing the therapeutic approach
- Don’t allow management to be delayed by team hierarchy
- Don’t forget to offer postoperative venous thromboembolism prophylaxis

This is a summary of a review published in TOG. For further details on surgical causes of acute abdominal pain in pregnancy, please read the full paper: Woodhead N, Nkwam O, Caddick V, Morad S, Myllymäen S. Surgical causes of acute abdominal pain in pregnancy. The Obstetrician & Gynaecologist 2019; https://doi.org/10.1111/tog.12536

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