Three concurrent pathologies in a 28-year-old female presenting with abdominal pain – tubal ectopic pregnancy, 8cm haemorrhagic cyst and acute appendicitis.

Mushfiq M
Gold Coast University Hospital, Queensland

Introduction:
Acute abdominal pain is a common presenting complaint in the emergency department, with many gynaecological and non-gynaecological causes. While individual causes such as ovarian cyst accident or torsion, appendicitis, and ectopic pregnancies are frequently encountered, the occurrence of all three simultaneously is rare.

Case Presentation:
A 28-year-old female presented to the emergency department with sudden onset severe right lower quadrant abdominal pain with associated nausea and vomiting. On physical examination she was tachycardic and had tenderness across her lower abdomen maximally in the right iliac fossa with associated guarding and positive rebound tenderness. Routine baseline investigations undertaken showed a raised white cell count with neutrophilia and a positive serum beta-human chorionic gonadotropin (B-hCG) which was 113 IU/L. A pelvic ultrasound demonstrated a large complex cystic mass in the right ovary measuring 8cm in diameter suggestive of an ovarian cyst with concerns for possible ovarian torsion given her presenting complaint. Additionally, there was evidence of a mildly dilated and hyperaemic tubular structure suggestive of acute appendicitis. A transvaginal ultrasound showed an anteverted uterus with no intrauterine gestational sac however a left adnexal avascular, thick-walled, cystic structure measuring 19mm in the context of an elevated B-hCG level raised concern for a left tubal ectopic pregnancy.

Management:
Based on the clinical presentation and on discussion with the consultant radiologist, the patient was diagnosed with three concurrent pathologies – a large right ovarian cyst, acute appendicitis and a left tubal ectopic pregnancy. The patient was haemodynamically stable, and the following day was taken for a diagnostic laparoscopy as a joint case with the gynaecology and general surgical team which confirmed the presence of a large right-sided haemorrhagic ovarian cyst, an unruptured left tubal ectopic pregnancy and an inflamed appendix. She underwent a R ovarian cystectomy, a left salpingectomy and appendicectomy. The procedure and post-operative period were uncomplicated, and she was discharged home the following day with oral analgesia. She was followed up in the early pregnancy service with serial B-hCG levels until negative. Her histopathology results confirmed the three pathologies of a right haemorrhagic ovarian cyst, left tubal ectopic pregnancy and acute suppurative appendicitis.

Discussion:
The simultaneous occurrence of a large ovarian cyst, appendicitis, and ectopic pregnancy in a young female presents a diagnostic dilemma due to the overlapping clinical features and the potential for serious complications if not promptly identified and managed. Imaging modalities such as ultrasound play a crucial role in the initial evaluation, but definitive diagnosis of the pathology often requires surgical management through a diagnostic laparoscopy.
In this case, the diagnostic laparoscopy provided both diagnostic confirmation of all three pathologies and therapeutic intervention, allowing for the simultaneous management of all three pathologies. Multidisciplinary collaboration involving gynaecologists, general surgeons, and radiologists was essential for optimal patient care.

Conclusion:
A concurrent presentation of a large ovarian cyst, appendicitis, and ectopic pregnancy is a rare but clinically significant entity that requires a timely diagnosis to facilitate appropriate surgical intervention which is crucial for preventing potential complications and ensuring favourable patient outcomes. This case underlines the importance of interdisciplinary teamwork and thorough clinical assessment in managing a female patient presenting with an acute abdomen.