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Case Report

Acute pancreatitis in the third trimester of pregnancy: a rare case report and management challenges

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ABSTRACT

Acute pancreatitis during pregnancy is a rare but potentially life-threatening condition for both mother and fetus, with an estimated incidence ranging from 1 in 1,000 to 1 in 10,000 pregnancies. The third trimester is the most commonly affected period, often due to hormonal and anatomical changes that predispose to gallstone formation and biliary stasis. Clinical presentation is frequently nonspecific and may mimic other obstetric or gastrointestinal conditions, making timely diagnosis challenging. Common etiologies include gallstones, hypertriglyceridemia, and, less frequently, alcohol use or idiopathic causes. Diagnosis relies heavily on biochemical markers such as serum amylase and lipase, supported by imaging modalities. Management typically involves conservative treatment; however, obstetric complications may necessitate early delivery. This case highlights a rare instance of acute pancreatitis at 35+5 weeks gestation, complicated by fetal distress, requiring an emergency cesarean section. A multidisciplinary approach involving obstetrics, gastroenterology, and critical care ensured a favorable maternal and neonatal outcome.

Keywords: Acute pancreatitis, Pregnancy, Gallstones, Hypertriglyceridemia, Third trimester, Cesarean section

INTRODUCTION

Acute pancreatitis during pregnancy is a relatively uncommon but potentially life-threatening condition, with a reported incidence ranging from 1 in 1,000 to 1 in 10,000 pregnancies.[1] The majority of cases occur in the third trimester, when physiological and hormonal changes predispose to biliary stasis, gallstone formation, and elevated triglyceride levels.[2]

The pathogenesis is multifactorial. Gallstone disease remains the leading cause, accounting for up to 70% of pregnancy-associated cases, while hypertriglyceridemia represents the second most common etiology.[3,4] Pregnancy itself is characterized by a progressive rise in estrogen and progesterone, which delays gallbladder emptying and alters bile composition, thereby promoting gallstone formation.[5] Additionally, physiological hyperlipidemia in late gestation may become pathological when triglyceride levels exceed 1,000 mg/dL, precipitating acute pancreatitis.[6] Less frequent causes include alcohol intake, certain drugs, viral infections, and idiopathic factors.[7]

The clinical presentation can be vague and overlaps with common pregnancy-related complaints such as nausea, vomiting, and epigastric pain, often leading to delays in diagnosis.[8] Therefore, biochemical confirmation with serum amylase and lipase, especially lipase for its higher specificity, is essential. Among imaging modalities, ultrasonography is preferred because of its safety profile, although sensitivity decreases with advancing gestation. Magnetic resonance cholangiopancreatography (MRCP) may be considered when further evaluation of biliary pathology is required without exposing the fetus to ionizing radiation.[9,10]

Acute pancreatitis in pregnancy has historically carried high maternal (up to 37%) and perinatal (up to 60%)

mortality, but advances in early diagnosis, intensive care, and multidisciplinary management have reduced maternal mortality to <5% and perinatal mortality to 11-19% in contemporary series.[11,13] A multidisciplinary approach involving obstetricians, gastroenterologists, surgeons, and critical care specialists is therefore crucial in optimizing outcomes for both mother and fetus.[14]

CASE REPORT

A 22-year-old woman, gravida 2 Abortion 1 at 35+5 weeks of gestation, presented with upper abdominal pain and vomiting. On examination, her vitals were stable. Laboratory tests revealed hemoglobin 14 g/dL, total leukocyte count 20,500, platelet count 2.74 lakh, elevated serum amylase (1086 IU/mL) and lipase (698 IU/mL), with triglycerides at 254 mg/dL. Ultrasound showed a gravid uterus, bulky pancreatic head, distended gallbladder, and mild ascites.

Conservative management was initiated in consultation with a gastroenterologist. She was kept nil per oral (NPO) and treated with intravenous antibiotics. Due to non-reactive NST and fetal distress, an emergency cesarean section was performed. Intraoperative findings included straw-coloured ascitic fluid and mild atonic postpartum hemorrhage, managed with Foley's tamponade.

Post-delivery, serum lipase decreased to 458 IU/mL and amylase to 645 IU/mL. The patient was maintained NPO with higher antibiotics. Ryle's tube feeding was started on postoperative day 2, followed by oral sips. She was shifted to full oral diet on postoperative day 4. Enzyme levels gradually normalized, and the patient was discharged in stable condition on postoperative day 12.

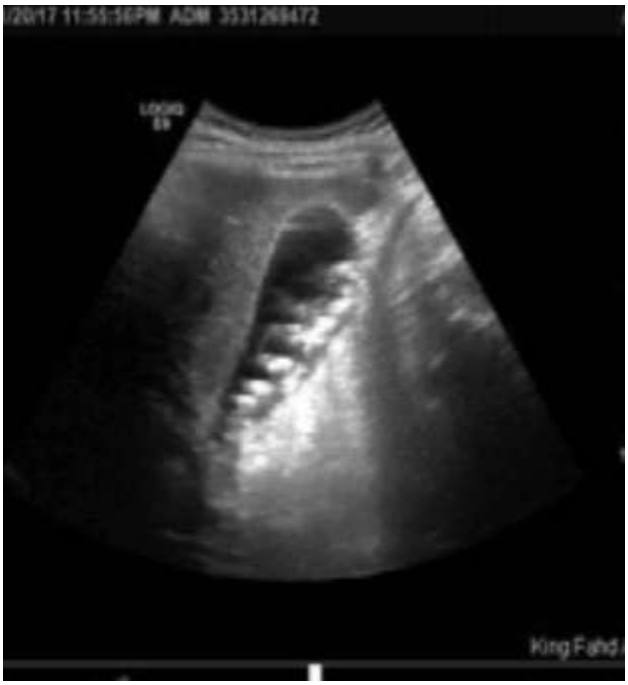

Figure 1: USG imaging of acute pancreatitis.

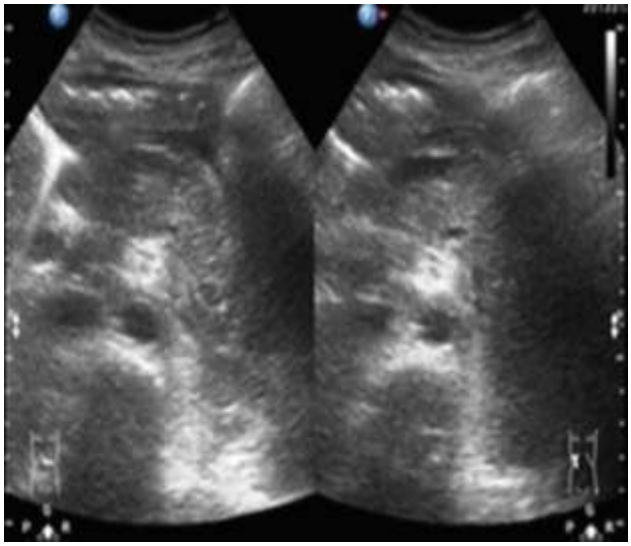

Figure 2: USG imaging of acute pancreatitis.

DISCUSSION

Acute pancreatitis during pregnancy, though rare, is a serious condition with potential risks for both mother and fetus. The incidence is estimated between 1 in 1,000 and 1 in 10,000 pregnancies, with the majority of cases occurring in the third trimester due to hormonal changes that predispose to biliary stasis and gallstone formation.[1,2] In our patient, the onset at 35+5 weeks supports this observed third-trimester predominance.

The etiology in pregnancy is most frequently biliary, followed by hypertriglyceridemia, with alcohol use and idiopathic causes being less common.[3,4] Our patient's imaging showed gallbladder distension with a bulky pancreatic head, and her triglyceride levels were only moderately elevated, making gallstone-related disease the most likely cause. This correlates with large retrospective series in which gallstones accounted for most cases of pregnancy-associated pancreatitis and were generally associated with a more favorable prognosis compared to hypertriglyceridemia.[5,6]

Clinical diagnosis is often challenging because symptoms such as abdominal pain, nausea, and vomiting are common in late pregnancy. In such cases, biochemical evaluation is critical, with serum lipase being more specific than amylase for confirming pancreatitis in pregnancy.[7] Our patient demonstrated marked elevations of both enzymes, consistent with reported diagnostic patterns.

Management in pregnancy is largely conservative, including bowel rest, intravenous hydration, analgesia, and nutritional support.[8,9] Antibiotics are not routinely indicated unless infection is suspected, although they were initiated in our case due to elevated inflammatory markers. Early enteral feeding, as tolerated, is preferred to reduce complications.[9,13] Interventions such as ERCP can be

safely performed in pregnancy if biliary obstruction persists, but were not required in this patient.[10]

The decision to deliver should be guided by obstetric indications rather than the pancreatitis itself[4]. In this case, an emergency cesarean section was performed for non-reassuring fetal status. Similar to other reports, delivery was prompted by fetal distress rather than maternal condition. Maternal recovery was uneventful, with enzyme levels normalizing postoperatively and no major complications.

Outcomes of acute pancreatitis in pregnancy have improved significantly over the past decades, with maternal mortality now reported at <5% and fetal loss ranging from 11-19% depending on severity.[11,13] Our patient's favorable course is consistent with more recent literature emphasizing the benefits of early recognition, supportive therapy, and coordinated multidisciplinary management involving obstetric, gastroenterology, and critical care teams.[8,10,12,14]

CONCLUSION

Acute pancreatitis, though rare in pregnancy, must be considered in women presenting with upper abdominal pain, particularly in the third trimester. Early diagnosis using biochemical and imaging modalities, coupled with prompt multidisciplinary management, is key to optimizing maternal and neonatal outcomes. Delivery decisions should be individualized and based primarily on obstetric indications.

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