Acute Pancreatitis in Pregnancy: A Case Report

Sapna I.S1, Somashekhar S.N2, Sandhya C.P3 & Vikram T.P4

1Professor, 2Post Graduate student Department of Obstetrics & Gynaecology, 3Professor, 4Post Graduate student Department of Surgery, JJMMC, Davangere, India.

Abstract:
Acute pancreatitis pregnancy is a rare condition. The common causes of acute pancreatitis in pregnancy are gallstones and hypertriglyceridemia.
We present a case of acute pancreatitis in a pregnant woman in her third trimester, who was finally diagnosed with hypertriglyceridemia induced acute pancreatitis. We discuss the diagnostic and therapeutic challenges of acute pancreatitis in pregnancy. Although rare, acute pancreatitis should be suspected in all pregnant patients admitted for non-obstetric abdominal pain. Early diagnosis and good supportive care by a multidisciplinary team are essential to ensure good maternal and fetal outcomes.

Key words: Acute pancreatitis, pregnancy, prognosis, treatment.

Introduction:
Acute pancreatitis is a rare but serious complication occurring during pregnancy with an incidence of 1 in 1000 – 10,000 pregnancies [1]. Acute pancreatitis is rare during the first and second trimester (12%), usually occurring in the third trimester (50%) or early postpartum period (38%) [1], the commonest identified causes of acute pancreatitis in pregnancy are gallstones (66%), alcohol (12%), hypertriglyceridemia (4%), idiopathic (17%) [1,2,3].
We are reporting a rare case of acute pancreatitis in the third trimester in a pregnant woman and emphasise on the diagnostic and treatment challenges.

Case Report:
A 29 year old gravida 2 para 1 with 36 weeks of gestation presented with complaints of acute abdominal pain and vomiting. The pain was in the epigastric region and was radiating to the back, not relieved by analgesics, however it reduced on bending or leaning forwards. She was a case of previous full term LSCS done 4 years back, done in view of abruption placenta grade 2. She was diagnosed with acute pancreatitis and was managed conservatively for 5 days by the surgeon & then was referred to us.
On admission she was conscious and in pain. She was normotensive and afebrile, with a pulse rate of 90 bpm. Her abdomen was uniformly distended and corresponded with 34 weeks gravid uterus size. There was tenderness in the right hypochondriac region with rebound tenderness but no guarding. Cervix was uneffected with os closed.
Investigations showed serum amylase level was 768 IU/l (normal level <96 IU/l), Lipase was 447 U/l (normal level < 60 U/l), LDH was 498 IU/l (103-227 IU/l) and triglycerides was 157 mg/dl (reference range 25-150 mg/dl).
Other parameters of liver function tests and lipid profile were normal, renal function tests, coagulation screening and electrocardiogram, were all normal. Ultrasound showed a single live intrauterine fetus with good cardiac activity and movements corresponding to 33 weeks, 3 days ± 21 days of gestation with a normal biophysical profile. It showed a bulky pancreas with peripancreatic fluid with gallbladder sludge but no gallstones suggestive of acute pancreatitis. Therefore a diagnosis of acute exacerbation of chronic pancreatitis due to hypertriglyceridemia was made. She was managed conservatively with IV fluids for rehydration and was kept nil per oral for five days. She was given injection Octreotide i.d. to lower her triglyceride levels and IV antibiotics were started simultaneously. Continuous Ryle’s tube aspiration for paralytic ileus, injection pantoprazole, antiemetic for symptomatic relief. Her general wellbeing and blood parameters improved remarkably. She was asymptomatic and her last blood test results prior to discharge were normal. She set into labour 2 weeks later and underwent a caesarean section in view of not willing for TOLAC and delivered a healthy male baby. Post-operative period & follow up was uneventful.

**Discussion:**

Acute pancreatitis in pregnancy is rare and is most often associated with gallstone disease or hypertriglyceridemia other causes include alcohol abuse, idiopathic, and less commonly hyperparathyroidism, trauma, medication, HELLP syndrome and fatty liver of pregnancy[1,2,3]. The complications of acute pancreatitis during pregnancy are threatened preterm labour, prematurity and in utero fetal death. During pregnancy the volume of the gallbladder increases and the flow of bile decreases. The increased oestrogen and bile cholesterol found in pregnancy lead to biliary stasis. Furthermore, the increased progesterone induces gallbladder smooth muscle relaxation, enhancing bile stasis. Gallstones can migrate in the common bile duct causing temporary or permanent obstruction of the pancreatic duct leading to a rise in hydrostatic pressure and activation of digestive enzymes within the pancreas[1]. The risk of acute pancreatitis from hypertriglyceridemia in pregnancy seems to be the highest in third trimester and tends to be a more severe form of pancreatitis than that due to gallstones[3]. During pregnancy, there is a physiologic estrogen-induced increase in triglyceride– rich lipoprotein production and decrease in clearance of triglyceride due to suppression of lipoprotein lipase activity in the liver and adipose tissue. Two plausible mechanisms have been implicated for the pathogenesis of hypertriglyceridemia. Hydrolysis of the excessive amount of triglyceride in the pancreas results in local release of highly concentrated free fatty acids, which could exert their cytotoxic effect on acinar cells and vascular endothelium. Another theory postulated that high concentration of chylomicrons could increase blood viscosity and even precipitate capillary obstruction in the pancreas, leading to local pancreatic ischemia, acidosis and activation of trypsinogen[4]. The disease usually appears during the third trimester or early postpartum period with symptoms like upper abdominal pain, nausea or vomiting, anorexia, fever and elevated serum amylase or lipase activities.
There are various diagnostic challenges and treatment controversies of acute pancreatitis associated with pregnancy. Most symptoms associated with acute pancreatitis, such as nausea, vomiting, abdominal discomfort, or pain, are frequently reported in pregnancy. Moreover clinical evaluation of acute abdomen in pregnancy can be confusing due to anatomical displacement of abdominal organs by the gravid uterus. The classical signs and symptoms of peritonitis may be less prominent than those in non-pregnant patients because of the stretching and lifting of the anterior abdominal wall away from the area of inflammation. The underlying inflammation has limited contact with the parietal peritoneum which precludes abdominal muscular response. Furthermore the uterus hampers the movement of the omentum to an area of inflammation. Such alteration distorts the clinical picture of acute abdomen and can lead to misdiagnosis or unnecessary non-obstetric surgical intervention which are associated with a higher premature rate.

Elevated amylase and/or lipase are the diagnostic hallmarks of acute pancreatitis. Ultrasound imaging plays an important role in diagnosing acute pancreatitis, and in establishing the underlying aetiology,ERCP or CECT (a gold standard for diagnosing common bile duct stasis and pancreatitis MRI can be used safely in pregnancy and is preferred if ultrasound failed to find out the cause of an acute abdomen and should be performed only when benefit outweighs the risk. [3, 4]

In acute pancreatitis due to hypertriglyceridemia, the mainstay of treatment is conservative and includes dietary restriction of fat, lipid lowering agents, appropriate nutritional supplements & aggressive fluid resuscitation is the single most important intervention required. Intravenous fluids, analgesia and fasting with nasogastric suctioning in the presence of intestinal obstruction.

In case of acute biliary pancreatitis, ERCP and laparoscopic cholecystectomy can be performed. It is safe during all trimesters but is best carried out during second trimester without major maternal and fetal morbidity.

**Conclusion:**
Acute pancreatitis during pregnancy is a rare but severe disease & should be suspected in all pregnant patients admitted for non-obstetric abdominal pain. Symptoms and laboratory findings may be distorted by pregnancy and hypertriglyceridemia. Therefore, timely and accurate diagnosis of acute pancreatitis remains challenging in such settings. A multidisciplinary approach, including gastroenterology and obstetric care, seems to be a key in making the best choice for management of acute pancreatitis during pregnancy.

**References:**

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