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Case Report

A case report of intrahepatic cholestasis of pregnancy with acute pancreatitis

Preeti Frank Lewis, Pratima V. Vinkare

Department of Obstetrics and Gynecology, JJH, Mumbai, Maharashtra, India

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***Correspondence:**
Dr. Pratima V. Vinkare,
E-mail: pratimavinkare@gmail.com

ABSTRACT

Cholestasis is a condition that impairs the release of a digestive fluid called bile from liver cells. As a result, bile builds up in the in the liver, impairing liver function. The problems with bile release occur within the liver (intrahepatic), the condition is described as intrahepatic cholestasis. Intrahepatic cholestatsis of pregnancy usually becomes apparent in the third trimester of pregnancy. Bile flow returns to normal after delivery of the baby, and the signs and symptoms of the condition disappear. However, they can return during later pregnancies. Intrahepatic cholestasis of pregnancy can cause problems for the unborn baby. The condition is associated with an increased risk of premature delivery and stillbirth. Additionally, some infants born to mothers with intrahepatic cholestasis of pregnancy have a slow heart rate and a lack of oxygen during delivery (fetal distress). Acute pancreatitis is defined as the sudden inflammation of pancreas manifested clinically by abdominal pain, nausea of dehydration that is usually self-limiting but occasionally can progress to severe disease and even death. Most cases of acute pancreatitis in pregnancy are caused by gallstone disease. It is thought with the weight and hormonal changes induced by pregnancy, gallstones are more likely to form and thus travel down the common bile duct to obstruct the pancreatic duct outflow. Another proposed mechanism for acute pancreatitis in pregnancy is high fat levels in the blood called triglycerides. Again, the hormonal changes of pregnancy can predispose certain women to developing this condition. When the triglycerides levels become too high, oxygen cannot adequately travel to the pancreas via bloodstream, and pancreatitis can ensue. Acute fatty liver of pregnancy (AFLP) is a rare but life-threatening complication that typically occurs in the third trimester of pregnancy. Extant studies show the low incidence of AFLP ranging from 1/7000 to 1/20000. Maternal mortality is 10% to 15%, and fetal mortality is up to 20% . The severity of this disease underscores the need for early diagnosis and management. The clinical diagnosis of AFLP is challenging, and the differential diagnoses includes other peripartum conditions such as severe viral hepatitis, pre-eclampsia, hemolysis, elevated liver enzymes, and a low platelet count (HELLP) syndrome or thrombotic microangiopathies. The primary treatment for AFLP includes rapid pregnancy termination and symptomatic therapy. Liver transplantation has been considered a last resort. We reported the case of 20-year-old primigravida at 36 weeks of gestation who developed IHCP mimicking Acute fatty liver of pregnancy with Acute Pancreatitis, however with multidisciplinary team approach she had a good feto-maternal outcome.

Keywords: Cholestasis, AFLP, Fetal distress

INTRODUCTION

Intrahepatic cholestasis of pregnancy is a cholestasis disorder characterised by pruritis with onset in 2nd or 3rd trimester of pregnancy; elevated serum aminotransferases and bile acid levels; spontaneous relief of signs and symptoms within 2 to 3 weeks after delivery. ICP is seen in 0.4-1% of pregnancies. IHCP increases the risk of preterm delivery, medium staining of amniotic fluid, fetal bradycardia, fetal distress and fetal loss, particularly when

associated with fasting serum bile acid levels >40 micomol/l. The hydrophilic bile and ursodeoxycholic acid (10-20 mg/kg/dl) was today recognised as the first line treatment of IHCP.[1]

Acute pancreatitis is a rare event in pregnancy occurring in approximately 1 in 10,000 pregnancies. The spectrum of acute pancreatitis in pregnancy ranges from mild pancreatitis to severe pancreatitis associated with necrosis, abscess, pseudo cyst and MODS. Acute pancreatitis is a common problem with an annual incidence of 5-80 per 1 lac of general population. Acute pancreatitis in pregnancy is most often associated with gall stone disease or hypertriglyceridemia.[2]

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Acute fatty liver of pregnancy (AFLP) is a rare but life-threatening complication that typically occurs in the third trimester of pregnancy. Extent studies show the low incidence of AFLP ranging from 1/7000 to 1/20000.[3] Maternal mortality is 10% to 15%, and fetal mortality is up to 20%.[4,5] The severity of this disease underscores the need for early diagnosis and management. The clinical diagnosis of AFLP is challenging, and the differential diagnoses includes other peripartum conditions such as severe viral hepatitis, pre-eclampsia, hemolysis, elevated liver enzymes, and a low platelet count (HELLP) syndrome or thrombotic microangiopathies. The primary treatment for AFLP includes rapid pregnancy termination and symptomatic therapy. Liver transplantation has been considered a last resort.[6,7]

CASE REPORT

A 20-year-old female primigravida, at 36 weeks of gestation was admitted to a first level care unit with complain of fever and yellowish discolouration of eyes since 4-5 days and then referred to a higher centre in view of hyperbilirubinemia (total bilirubin: 10.37, direct bilirubin: 7.01, indirect bilirubin: 3.36).

On examination, her general condition was moderate, she was conscious and orientated to time, place and person, BP: 110/70 mm Hg, pulse: 62/min , icterus +++, no pallor/clubbing/lymphadenopathy, P/A: uterus size 34-36 weeks , FHS +/140 /min , regular , cephalic lie and relaxed.

On per vaginal examination: os 1 cm dilated, 30% effaced, vertex presentation, membranes present, pelvis adequate.

Her investigations were as follows: CBC:Hb:9.8 TLC:11700, platelet: 135000; HbsAg, HCV, HEV, HBV: negative; husband: HbsAg positive; BT: 6 mins 36 seconds; CT: 11 mins 57 seconds; PT/INR: 21/1.7; liver function tests: total bilirubin: 10.37,SGOT: 78 SGPT: 73 alkaline phosphatase: 381; renal function tests: serum creatinine: 2.05; uric acid: 7.46; ABG: respiratory alkalosis.

She delivered vaginally on 21 November 2021 with a female child of weight 2.1 kg. She went into PPH and was managed by uterotonics and uterine tamponade. Post delivery, she was shifted to MICU for critical care and monitoring. Baby was shifted to NICU in view of respiratory distress.

She had severe ascites, abdominal wall edema and pedal edema. Her ascitic tapping was done.

She was transfused 4 pint PCV, 8 pint FFP and 8 pint platelet.

Her repeat investigations were sent and CT was done.

Ascitic fluid routine microscopy: field full of RBCs; culture sensitivity was negative; SAAG: 2.8; serum albumin :3.9; ascitic fluid albumin: 0.7; ascitic fluid protein: 840; ascitic fluid sugar: 107.

Liver function tests: total bilirubin: 15.63; direct bilirubin: 8.82; indirect bilirubin: 6.86; SGOT: 47; SGPT: 33.16; alkaline phosphatase: 307.6.

Total protein: 6.67; albumin: 2.3; globulin: 4.37; CBC:hemoglobin: 7.6; PCV: 19.7.

Platelets were in the decreasing trend.

USG s/o altered liver echo texture with mild ascites.

CECT (abdomen): diffuse bulky pancreas suggestive of acute edematous pancreatitis; diffuse fatty infiltration of liver; mild bilateral pleural effusion with mild pericardial effusion; gross ascites.

She had superficial episiotomy gape on day 10. Daily dressing done twice for the same. Episiotomy healed by secondary intention.

She was managed conservatively on higher antibiotics, anti histamines and anti malarial was also given. She recovered completely and was discharged on day 36. Baby also recovered completely and was discharged with mother.

However on the basis of above investigations provisional diagnosis of acute fatty liver of pregnancy with acute pancreatitis were made and the patient was treated accordingly, although liver biopsy was suggestive of cholestasis of pregnancy. Hence, a rare clinical presentation of Intrahepatic cholestasis of pregnancy with acute pancreatitis disguised as AFLP.

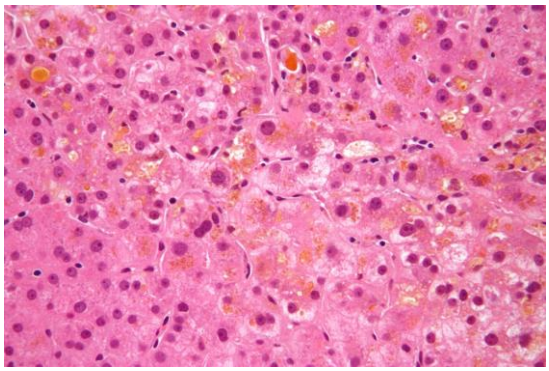

Figure 1: Liver biopsy suggestive of cholestasis.

DISCUSSION

AFLP is an obstetric emergency as it can be fatal for both mother and baby without early identification and imperative treatment.[4] Diagnosis of AFLP is challenging because the initial presentation is nonspecific, similar to preeclampsia and HELLP (hemolysis, elevated serum level of enzymes, and low platelets syndrome). AFLP mainly presents as vomiting, nausea, abdominal pain and other gastrointestinal symptoms. In fact, these symptoms are the main reason for patients to seek medical treatment, which is easy to be misdiagnosed as gastroenteritis.

The misdiagnosis would delay treatment and cause poor prognosis.

The Swansea criteria have been proposed as a clinical diagnostic tool for AFLP, but it lacks specificity. To simplify and facilitate the diagnosis of AFLP in suspected early pregnancy, Gracia et al attempted to summarize the characteristics of AFLP-triad', namely the clinical symptoms (nausea/vomiting, jaundice, epigastric pain), and the laboratory results (liver function abnormalities, coagulopathy, renal dysfunction, hypoglycemia), and complications (encephalopathy, ascites, coagulopathy, renal failure). Our patient developed nausea, vomiting, and jaundice at 36 weeks of gestation and delivered spontaneously and went into PPH due to coagulopathy. However, on day 2 post delivery patient went into hypoglycemia which was managed intensively. Eventually patient developed moderate ascitis, AKI and sepsis.[8-10]

Acute pancreatitis may develop with the complexity of AFLP and the mechanism is unclear. Fatty acid metabolites are toxic to pancreatic tissue and likely play a role in the etiology of acute fatty liver of pregnancy-associated pancreatitis. Pancreatitis has been suggested as a poor prognostic indicator because it is associated with more adverse outcomes. The serum amylase and lipase of our patients were raised.

Infection may develop in patients with AFLP and can include sepsis, pneumonia, urinary tract infections, Clostridium difficile, and peritonitis. When our patient developed severe acute pancreatitis, the infection index was very high, sustained moderate fever for 2 weeks, with leucocytosis, she was started on higher antibiotics with supportive treatment. Early detection coupled with advancements in critical care management have changed acute fatty liver of pregnancy from being a highly fatal complication of pregnancy to a treatable entity.[11-13]

However, on further investigation and histopathology reports of liver biopsy after management of coagulopathy, it was diagnosed to be a case of intrahepatic cholestasis of pregnancy.

Obstetric cholestasis is a multifactorial condition of pregnancy characterised by pruritus in the absence of a skin rash with abnormal liver function tests (LFTs), neither of which has an alternative cause and both of which resolve after birth. Most authorities accept elevations of any of a wide range of LFTs beyond pregnancy-specific limits.

The clinical importance of obstetric cholestasis lies in the potential fetal risks, which may include spontaneous preterm birth, iatrogenic preterm birth and fetal death. There can also be maternal morbidity in association with the intense pruritus and consequent sleep deprivation.

In our case patient had meconium stained liqour and greenish discoloration of placenta, typically seen in cholestasis.

However, baby was shifted under NICU care and was then shifted with mother.

CONCLUSION

In conclusion, this case report presents a rare and complex clinical presentation of a 20-year-old primigravida with fever, jaundice, and abdominal symptoms at 36 weeks of gestation. Initially suspected to have AFLP with acute pancreatitis, further investigations revealed a diagnosis of intrahepatic cholestasis of pregnancy (ICP). The patient experienced complications such as PPH, ascites, AKI, and sepsis. AFLP is a critical condition that requires early identification and prompt treatment to prevent adverse outcomes for both the mother and baby. Its initial presentation overlaps with other obstetric conditions, such as preeclampsia and HELLP syndrome, leading to potential misdiagnosis and delays in appropriate management. The Swansea criteria and the "AFLP-triad" have been proposed as diagnostic tools, but their specificity is limited. Acute pancreatitis, although a rare complication of AFLP, was observed in this case and

likely contributed to the severity of the clinical presentation. Infections, including sepsis, can also develop in patients with AFLP, further complicating the condition. Following management of coagulopathy, a liver biopsy confirmed the diagnosis of ICP, a condition characterized by pruritus and abnormal liver function tests during pregnancy. Obstetric cholestasis poses risks to both the mother and the fetus, including preterm birth and fetal demise. Early detection, critical care interventions, and advancements in management have improved the prognosis of AFLP. This case emphasizes the need for awareness and consideration of AFLP as a potential diagnosis in pregnant patients presenting with gastrointestinal symptoms, jaundice, and coagulopathy. It also highlights the challenges in differentiating AFLP from other obstetric conditions and the importance of comprehensive investigations for accurate diagnosis and appropriate management.

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