

Case Report

Maternal and Fetal Outcomes of Recurrent Pancreatitis in Pregnancy After Preconception Whipple Procedure for Carcinoid Tumor

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Abstract

Incidence of pancreatitis in pregnancy is rare, ranging from 1:1000 to 1:10000. Very few case reports have presented pregnancy outcomes after pancreaticoduodenectomy (Whipple procedure) in pregnancy for a carcinoid tumor of pancreas. We report a case of a woman who was a thirty two year old primigravida with history of a Whipple procedure for carcinoid pancreatic tumor seven years prior had two episodes of severe pancreatitis in pregnancy. She was managed conservatively with each episode. She delivered at twenty eight weeks due to non-reassuring cardiotocography and did not have a recurrence for the last eleventh months since her delivery.

Keywords: Pregnancy, acute pancreatitis, Whipple procedure, preterm delivery.

Introduction

Incidence of pancreatitis in pregnancy is rare approximately 0.03%.¹ Etiologies of pancreatitis during pregnancy include cholelithiasis, alcohol consumption, hyperlipidemia, hypercalcemia, medications like tetracycline and valproic acid, trauma, and idiopathic causes.¹ Cholelithiasis accounts for two-third of cases of acute pancreatitis during pregnancy.¹ Around 43% of the cases occurs in third trimester and 32% of women delivering prematurely.¹ It can be associated with maternal mortality and fetal loss.² The etiology of our patient's recurrent pancreatitis confined to pregnancy is not clearly defined; hormonal (markedly elevated progesterone concentrations) or mechanical (expanding uterus) factors may have precipitated pancreatitis.

Our case is of particular interest because our patient's surgical intervention occurred pre-pregnancy and she

experienced recurrent pancreatitis in the second and third trimester. She was delivered at twenty eight weeks by caesarean section due to abnormal tocography trace. Very few case reports are available regarding complications and management of recurrent pancreatitis during pregnancy after preconception and antepartum whipple procedure.^{3,4} Preterm delivery should be reserved in cases where fetal testing is non-reassuring, attempts at stabilizing the mother have failed, or both, ideally after antenatal corticosteroids. Recurrent pancreatitis during pregnancy should be treated conservatively and surgical intervention is only required for refractory cases.⁵

Case Presentation

A 32 years old woman, primigravida, twenty eight weeks and five days of gestation presented at the Obstetrics and Gynaecology department at Aga Khan

University Hospital Karachi on April 2016, with acute-onset epigastric pain and vomiting for two days. She had a history of admission at twenty four weeks with acute pancreatitis which was managed conservatively. Her medical history was remarkable for pancreaticoduodenectomy and cholecystectomy (Whipple procedure) for a carcinoid tumor seven years back. She conceived spontaneously. She had no personal history of alcohol use. A computerized tomography scan of the chest, abdomen, and pelvis revealed no evidence of recurrent disease. Her antepartum course was notable for two hospitalizations for acute pancreatitis during the second and third trimester.

She presented with moderate epigastric pain and recurrent emesis at twenty four weeks of gestation. She was found to have a lipase of 850IU/L and a white blood cell count of 10,000/mL. Her liver function tests were within normal limits. She was kept nil per oral and was treated with narcotics and intravenous hydration. On hospital day two, her pain had resolved, laboratory parameters improved, and her diet was advanced. She remained asymptomatic and pain free. She was discharged on third day of admission. She presented with moderate epigastric tenderness at twenty eight weeks and five days of gestation on 14 April 2016. Her laboratory values were notable for a white blood cell count of 19,400/mL, lipase greater than 1008.00U/L units/L, amylase 97IU/L with liver function tests and triglyceride levels within normal limits. Computerized tomography revealed dilated pancreatic duct 7.7mm with swollen body and tail of pancreas suggested of acute pancreatitis and common bile duct stent was found displaced in jejunal loop in left upper quadrant of the abdomen.

Her Growth scan at twenty five weeks showed asymmetrical intrauterine growth restriction fetus with weight approximately 863gms and AFI 22cms. Acute

pancreatitis was diagnosed most likely as pregnancy-related. She was admitted under general surgery with Obstetrics team involvement, made nil per oral and managed with intravenous fluids and pain medication. On the sixteen day of admission, she underwent into preterm labour and emergency lower segment caesarean (LSCS) was performed due to abnormal cardiotocogram (CTG). An alive baby male neonate weighing one kg with Apgar scores of eight and nine at one and five minutes, respectively and shifted to neonatal intensive care unit (NICU). On eighth postoperative days her pain subsided and she tolerated regular diet and rest of her postoperative course was unremarkable. She was discharged on ninth postoperative day in stable condition with no further recurrence of pancreatitis for the last eleventh months since her delivery.

Discussion

Incidence of pancreatitis in pregnancy is rare, ranging from 1:1000 to 1:10000.⁶ Supportive management has mostly favourable results. Patient with biliary pancreatitis were shown to have better outcomes with regard to timing of delivery, admission to a high dependency unit, need for total parenteral nutrition, and recurrence compared with those who had pancreatitis as a result of other etiologies.¹ Our case is of particular interest because our patient's surgical intervention occurred pre-pregnancy and she experienced recurrent pancreatitis each trimester with favourable maternal and fetal outcomes after conservative management. Very few cases report regarding complications and management of recurrent pancreatitis during pregnancy after preconception and antepartum whipple procedure.^{2,3} In literature two case reports showed women underwent a Whipple procedure in the first trimester and twenty three weeks of gestation, both with an unremarkable antepartum course and spontaneous vaginal deliveries at term.⁷

The etiology of our patient's recurrent pancreatitis confined to pregnancy is not clearly defined; hormonal (markedly elevated progesterone concentrations) or mechanical (expanding uterus) factors may have precipitated pancreatitis. Even in the absence of a gallbladder, we cannot rule out a progestational effect on the common bile duct contributing to our patient's recurrent pancreatitis. In a review of acute pancreatitis by Whitcomb et al, several factors including tachycardia, tachypnea, and failure to show clinical improvement in the first forty eight hours are all signs of worsening disease.⁴ Our patient met all of the aforementioned criteria in her second admission when she was transferred to a high dependency unit. If the patient's clinical status had deteriorated, other management options would have been considered, including surgical exploration, débridement, or both. Optimal timing of delivery remains unknown but should be at term thirty seven to thirty nine weeks in a stable patient.⁸ Preterm delivery should be reserved in cases where fetal testing is non-reassuring, attempts at stabilizing the mother have failed, or both, ideally after antenatal corticosteroids. Another study reported no maternal and fetal mortality out of 25 cases of acute pancreatitis in pregnancy due to early diagnosis and appropriate supportive treatment.⁹ Severity of acute pancreatitis increases with advance gestation which has a direct effect on maternal and fetal outcome.¹⁰

Further prospective randomized controlled trials are required to improve maternal and fetal outcome with recurrent pancreatitis during pregnancy. The overall maternal mortality rate of acute pancreatitis in a study showed 0.97 %.¹¹

Recurrent pancreatitis in pregnancy after a preconception Whipple procedure can be managed conservatively without surgical intervention and preterm delivery is required only in case when maternal or fetal condition compromise.

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