Case Report
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Pancreatic Pseudocyst in Pregnancy and Outcome: A Rare Case Report and Review of Literature

Indu Lata*, Sameer Mohindra**

Abstract

Pancreatic pseudocyst in pregnancy is a very rare and serious condition, whose management is not standardized. Hyperlipidemia is considered as a cause of pancreatic pseudocysts in pregnancy, responsible for more cases than other causes like as alcoholic and biliary pancreatitis. Pharmacologic treatments, radiologic examinations, and especially operative interventions must be considered with greater caution. Main aim should be to save the life of mother while taking care to minimize the risk of miscarriage and preterm delivery. Multidisciplinary approach may give better outcome in this type of rare high risk pregnancies.

Key-words: Pancreatitis; Pseudocysts; Pregnancy; Management; Complication.

*Associate Professor, Department of Maternal and Reproductive Health **Additional Professor, Deptartment of Gastroenterology, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, U.P., India.

Indu Lata, Associate Professor, Department of Maternal and Reproductive Health, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Rae Bareli Road, Lucknow, Uttar Pradesh 226014, India.
E-mail: drindusandeep@gmail.com

Introduction

Pancreatic pseudocyst in pregnancy is a very rare and serious condition, whose management is not standardized. It occurrs in 1 in 1000 to 1 in 12,000 pregnancies [1]. Pancreatic pseudocysts complicate 5% of cases of pancreatitis, or fewer than 1 in 60,000 deliveries [2]. The natural history of pancreatic pseudocysts in pregnancy appears similar to that in non-gravid patients. Hyperlipidemia is considered as a cause of pancreatic pseudocysts in pregnancy, responsible for more cases than other causes like as alcoholic and biliary pancreatitis. We are reporting our one case report along with critical review of twelve others published in the literature till now since 1980.

Case History

A 23-year-old primigravida woman at 25 weeks' gestation presented with history of nausea, vomiting, and intermittent epigastric pain for last six months.

She had past history of similar nature of epigastric pain five years back. She developed extrahepatic biliary obstruction (EHBO) followed by cholangitis, for which ERCP with common biliary drainage (CBD) stenting was done. The symptoms were improved and the CBD stent was removed later on. She again had acute severe abdominal pain three years back. CT scan abdomen showed acute pancreatitis with 40% necrosis and acute fluid collection and calcifications. This time the symptoms and pain was subsided with conservative treatment.

After seven months, the patient conceived and pregnancy was confirmed by urine pregnancy test and ultrsonography (USG). At 25 weeks gestation, patient again developed similar pain, for which she was admitted. On admission USG abdomen showed pseudopancreatic cyst 5.5 x 5.9 cm with internal echoes within. Her temperature was 100.6°F, pulse rate 110 beats/min, and blood pressure 90/54 mm Hg. On examination, she was found to have a soft but distended abdomen with normal bowel sounds. The WBC was 12,000/ mm^3 (normal

Table 1: Comparative illustration of review of literature on twelve cases of puedo-pancreatic cyst during pregnancy

Author	Age/Gravida Para/EGA	EGA when cyst was found	Size & location	Etiology	History of cyst	Management	Delivery	Mortality and morbidity
Hess	25 years old/gravida 1, para 0/31 weeks	PP	N/A	Hyperparathyroidism	N/A	Conservative	Induced Vaginal PT	Hypocalcemia after neck surgery, renal failure
Glueck	gravida 1, para 0/39 weeks	39 weeks	N/A	Lipid	N/A	Conservative	Vaginal T	Acute hemorrhagic pancreatitis, Ruptured cyst, shock, Hypocalcemia,ICU
Stowell	37 years old/gravida 3, para 2/31 weeks	31 weeks	5 cm head, 8 cm tail	Alcohol	Cyst in head resolved; tail cyst remained the same size	Conservative, PP Cystgastrotomy	Vaginal T	TPN for 5 weeks, FGR
Nies	26 years old/gravida 2, para 0/34 weeks	PP	6 cm, tail	Lipid	Remain the same size	Conservative	Vaginal PT	Pleural effusion versus pneumonia; ICU
Ryan	35 years old/ 6 weeks	Present before pregnancy	6 cm, tail	Idiopathic (alcohol?)	Grew to 7 cm; shrunk to 2 cm after stent; grew to 4 cm when stent fell out; stent replaced and cyst stable until 2 months PP	Cystogastric stent placed by ERCP at 17 weeks; transpapillary stent placed at 35 weeks; PP Pancreactomy	Vaginal T	None
Beattie	20 years old/gravida 1, para 0/24 weeks	27 weeks	13 cm posterior to stomach	Anatomic	1 liter of fluid aspirated then daily aspiration	Percutaneous drainage at 24 weeks; PP hepaticojejunostomy	C/S PT	cyst collapsed around drain
Swisher	N/A	N/A	6 cm	Non-GS(Alcohol or idiopathic)	N/A	Percutaneous drainage	N/A	N/A
Chen	28 years old/gravida 2, para 1/31 weeks	31 weeks	4 cm, tail	Lipid	Shrunk to 2 cm spontaneously	Conservative	N/A	None
Bar-David	28 years	29 weeks	N/A	Lipid	Infected	Conservative	Vaginal T	Septic shock,

PT-Preterm, T-Term, C/S- Cesarean Section, N/A- Not Available, PP-Postpartum.

during pregnancy), amylase was 52 U/L and calcium, triglycerides, rest of liver function tests was normal. The patient declined drainage of the pseudocyst because of the potential risk of preterm labor. She was treated conservatively with bowel rest, intravenous fluids, and parenteral nutrition. On antepartum USG fetus had intrauterine growth retardation and oligohydramnios with normal umbilical artery doppler parameters. Her abdominal pain was resolved after 5 days of conservative management and her diet was improved after a week. She was started on oral amino acid tablets and high protein diet. Patient was discharged after 10 days of admission from the hospital. She developed preterm labor at 28 weeks that responded with tocolytics treatment. Due to illness and poor intake patient became anemic.To increase the hemoglobin level she was administered intravenous iron sucrose. At 33 weeks gestation on USG previously present pseudopancreatic cyst was absent. At 38.3 weeks pregnancy abdominal ultrasound shown asymptomatic incidental cholilithiasis along with fetal intrauterine growth restriction having breech presentation with oligohydramnios. Emergency caesarean section was done in view of fetal distress on contraction stress test under regional anaesthesia. During per-operative period the pseudo-pancreatis cyst was not seen. An alive healthy female baby of 1400 gm was delivered. After three days the baby developed neonatal hyperbilirubinemia for which phototherapy was done and it improved. Patient was discharged with baby on breast feeding after one week of the cesarean section in stable condition.

Discussion

Pseudo-pancreatic cyst during pregnancy is an extremely rare and special situation. Gallstone disease is very common in pregnancy, but gallstone pancreatitis with pseudocysts is a rare complication in pregnancy. Pancreatic pseudocysts occur as a consequence of acute and chronic pancreatitis or because of abdominal and surgical trauma. Pancreatic pseudocyst can develop in 10% of patients of acute pancreatitis and 30% to 60% of these pseudocysts resolve spontaneously on conservative management only [3]. The poorly localized fluid collections of acute pancreatitis can heal spontaneously but in about 10% of cases it may develop into a pseudocyst.

These cases should be observed for initial 4 to 6 week period in anticipation of spontaneous resolution or development of a mature wall that will allow safe surgical drainage. After this period, asymptomatic patients with small asymptomatic pseudocysts (<4-6 cm in diameter) can be observed. But interventions are required for pseudocysts that do not resolve or large pseudocysts (>6 cm) and for cysts with complications. The management options include endoscopic drainage, open surgical drainage, or laparoscopic drainage. In recent years laparoscopic cystogastrostomy is becoming the standard approach [4]. But all these procedures during pregnancy are invasive increase morbidity and mortality of both mother and fetus and can complicate pregnancy or induce preterm labor.

The pseudocysts associated with chronic pancreatitis develop mainly as a result of a rupture of a pancreatic duct branch, thus spontaneous resolution is difficult. In most such cases, due to potentially fatal complications the pseudocyst should be drained. Pharmacologic treatments, radiologic examinations, and especially operative interventions must be considered with greater caution.

Internal drainage can be done into the duodenum or the posterior wall of the stomach by anastomosis. Anastomosis may be difficult in infected pseudocyst or with thin cyst wall. Due to various conditions non obstetric surgeries are performed during pregnancy, depending on the urgency and emergency. If the disease doesn't require emergency intervention surgery should be postponed in view of maternal and fetal well-being. Main aim should be to save the life of mother while taking care to minimize the risk of miscarriage and preterm delivery [6]. In these cases percutaneous drainage can be done but there are chances of recurrence upto 20% to 70% [5], with risks of infection [7] and fistulization [8]. Recently, endoscopy has been used to avoid surgery in high-risk cases [9]. An indwelling transgastric or transduodenal pigtail catheter may be placed or a more permanent internal fistula created by cautery between the cyst and the adjacent viscus.

Due to technical difficulty in taking USG measurement of pancreatic pseudocysts during pregnancy so there is limited data available in literature. The presentation, etiology, management, and outcomes of pancreatic pseudocysts during pregnancy since 1980 to till now had been shown in Table 1. Since then the ultrasound, amylase, and lipase became widely available for diagnosis and management that had lead early detection. In table-1, six of the eleven women of known gestation were primigravida. Gallstones is commonest cause of pancreatitis during pregnancybut in presented data it was only in three cases. Hyperlipidemia accounted for almost half of the cases. In five cases successful vaginal delivery were reported with pseudocysts, managed conservatively [9-12].

But our concern was the risks of Valsalva during labor that can be hazardous in patient with pseudocysts. There is report of a pancreatic pseudocyst rupturing during vaginal delivery leading to shock and admission to intensive care [13]. The cystic neoplasms although less common than pancreatic pseudocysts, during pregnancy and may mimic inflammatory fluid collection [14,15].

Eight patients had been managed conservatively and two were had cystgastrotomy and pancreactomy in postpartum period. In six cases intervention was performed antepartum, the two patients underwent percutaneous drainage [16,17]. The othertwo patients were managed endoscopically [18,19]. The lasttwo patient undergonelaproscopically drainage [20,21].

Conclusion

Symptomatic pseuodopancreatic cyst in pregnancy can be problematic in view of its diagnosis, management and can complicate pregnancy and its outcome. If not subsided by conservative management, surgery may be needed depend on symptoms and its complications. Any medical or surgical illness during pregnancy can increase the mortality and morbidity in both mother and fetus. Lifesaving emergency surgery of mother can be done in any trimester. Elective surgeries during pregnancy should be considered during the second trimester, because of less chance of spontaneous abortion and preterm deliveries. Multidisciplinary approach may give better outcome in this type of rare high risk pregnancies.

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