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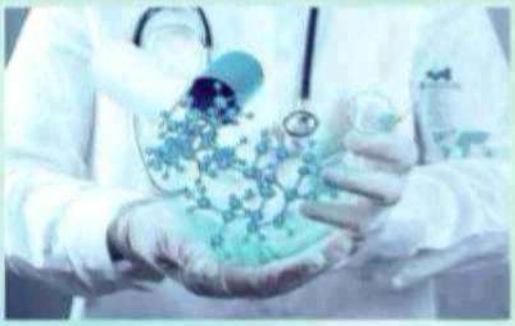

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ACUTE PANCREATITIS IN PREGNANCY: A CLINICAL TREATMENT MODEL

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✓ ***Resume***

Acute pancreatitis during pregnancy is uncommon, with an incidence of roughly 3 per 10,000 pregnancies. Its clinical presentation ranges from mild inflammation to severe disease complicated by necrosis, abscess formation, pseudocysts, and multiorgan dysfunction. As in other pregnancy-related conditions, acute pancreatitis presents added complexity because it involves the well-being of both mother and fetus. Gallstone disease and hypertriglyceridemia remain the most frequent etiologies. Materials and Methods: We report our two-year experience with eight pregnant patients diagnosed with AP. Results: Among the eight patients, three underwent laparoscopic cholecystectomy while five were managed conservatively. One patient developed multiple intra-abdominal cysts, which were successfully drained. All patients delivered at term. Prophylactic tocolysis was administered for 48–72 hours only to those who underwent laparoscopic cholecystectomy. All patients recovered fully, with no maternal or fetal mortality observed. Conclusion: With timely diagnosis and appropriate management, acute pancreatitis in pregnancy carries a favorable prognosis, markedly improved compared to historical outcomes.

Keywords: Acute pancreatitis, pregnancy, prognosis, treatment.

ҲОМИЛАДОРЛИК ДАВРИДАГИ ЎТКИР ПАНКРЕАТИТ: КЛИНИК ДАВОЛАШ МОДЕЛИ

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✓ ***Резюме***

Ҳомиладорлик давридаги ўткир панкреатит кам учрайди (10 000 ҳомиладорликка тахминан 3 ҳолат) ва клиник намоён бўлиши енгил яллиғланишдан тортиб некроз, абсцесс, псевдокиста ҳамда кўп орган етишмовчилигигача бориши мумкин; ҳомиладорликда она ва ҳомиланинг бир вақтда хавфсизлигини таъминлаш зарурати мураккабликни оширади; энг кўп учрайдиган сабаблар — ўт тошлари ва гипертриглицеридемия; икки йиллик тажрибамизда ЎП ташхиси қўйилган 8 бемор кузатилди: 3 нафарга лапароскопик холецистэктомия, 5 нафарга консерватив даво қўлланилди; бир беморда ривожланган бир нечта интраабдоминал кисталар муваффақиятли дренаж қилинди; барча беморлар муддатига етказиб туғди; лапароскопик холецистэктомия ўтказилганлар учун 48–72 соат профилактик токолиз қўлланилди; барчаси тўлиқ шифоланди, она ёки ҳомила ўлими кузатилмади; хулоса сифатида, ўз вақтида ташхис ва тўғри даво тактикаси билан ҳомиладорликдаги ўткир панкреатит яхши прогнозга эга.

Калит сўзлар: ҳомиладорликдаги ўткир панкреатит, ҳомиладорлик, прогноз, даволаш.

ОСТРЫЙ ПАНКРЕАТИТ ПРИ БЕРЕМЕННОСТИ: КЛИНИЧЕСКАЯ МОДЕЛЬ ЛЕЧЕНИЯ

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✓ ***Резюме***

Острый панкреатит (ОП) при беременности встречается редко — около 3 случаев на 10 000 беременностей; клинические проявления варьируют от лёгкого воспаления до тяжёлых форм с некрозом, абсцессами, псевдокистами и полиорганной недостаточностью; заболевание усложняется необходимостью учитывать здоровье и матери, и плода; наиболее частые причины — желчнокаменная болезнь и гипертриглицеридемия; в нашем двухлетнем наблюдении восьми беременных пациенток у трёх выполнена лапароскопическая холецистэктомия, пять получали консервативное лечение, у одной диагностированы множественные внутрибрюшные кисты, успешно дренированные; все пациентки родили в срок; профилактический токолиз проводился только после холецистэктомии в течение 48–72 часов; все женщины полностью выздоровели, случаев материнской или перинатальной смертности не отмечено; при своевременной диагностике и правильной тактике ведения острый панкреатит при беременности имеет благоприятный прогноз.

Ключевые слова: острый панкреатит, беременность, прогноз, лечение.

Relevance

Acute pancreatitis (AP) is an uncommon condition during pregnancy, occurring in roughly 3 out of every 10,000 pregnancies. Its clinical presentation varies widely—from mild inflammation to severe disease complicated by necrosis, abscess formation, pseudocysts, and multiple organ dysfunction [5,7,8,14]. Physiological hematologic and biochemical changes of pregnancy can complicate the interpretation of laboratory findings and the evaluation of AP severity. As with any maternal disease, AP carries heightened concern because it affects both the mother and the fetus, unlike in the nonpregnant population [3,4,6,9].

Recent progress in clinical gastroenterology has significantly advanced early diagnosis and management of biliary pancreatitis. Modern diagnostic techniques—such as endoscopic ultrasound, magnetic resonance cholangiopancreatography (MRCP), and endoscopic retrograde cholangiopancreatography (ERCP)—along with therapeutic interventions including endoscopic sphincterotomy, biliary stenting, extraction of common bile duct (CBD) stones, and laparoscopic cholecystectomy, represent major milestones in the field [5,6,8,12]. With appropriate management, AP in pregnancy no longer carries the grim prognosis once reported.

Earlier reviews documented maternal mortality rates of up to 20% and fetal mortality rates approaching 50% [7,8,10,15]. However, these figures stem from the era before ERCP and laparoscopic cholecystectomy and are no longer applicable. Contemporary data demonstrate substantially improved outcomes, largely due to advancements in treating gallstone-related AP. Here, we present our two-year experience with acute pancreatitis during pregnancy [12,14,17].

The aim of the study: to study the course of acute pancreatitis during pregnancy – a clinical treatment model.

Materials and Methods

This retrospective study was carried out over a two-year period at a medical college affiliated with a tertiary care hospital in North India. The study spanned from January 2011 to December 2012. Pregnant patients presenting with clinical features suggestive of acute pancreatitis were enrolled. The diagnosis was established based on elevated pancreatic enzyme levels. Radiological evaluation was performed to assess pancreatic size and morphology, the pancreatic duct, peripancreatic fluid collections, and to examine the CBD and gallbladder for alternative causes of acute abdomen. Fetal well-being was also assessed.

Conservative medical treatment served as the primary management strategy for acute pancreatitis, while surgical intervention was undertaken when an underlying etiological factor required correction. All women were followed through to delivery, and maternal as well as fetal outcomes at the time of discharge were documented.

Result and discussions

Eight pregnant women with clinically and biochemically confirmed acute pancreatitis were included in the study. Among them, six (75%) were between 20 and 25 years of age, one (12.5%) was 26–30

years old, and one (12.5%) was older than 35 years; no patients fell within the 31–35-year age range. Three women (37.5%) presented during the second trimester, whereas five (62.5%) presented in the third trimester (Table 1).

In addition to the typical symptoms of acute pancreatitis—acute epigastric pain radiating to the back, accompanied by nausea and vomiting—four patients exhibited jaundice, and three demonstrated pulmonary abnormalities such as pleural effusion or basal lung collapse. All patients showed markedly elevated serum amylase and lipase levels. One patient had hypertriglyceridemia, and five had cholelithiasis (Table 2).

Conservative medical therapy constituted the primary management approach. Surgical intervention in the form of laparoscopic cholecystectomy was performed in three patients to address gallstone disease, while one patient underwent ERCP for common bile duct stones. All women delivered healthy, full-term infants via vaginal delivery. One patient developed multiple intra-abdominal fluid collections in the postpartum period, which were successfully drained using a pigtail catheter, and she was subsequently discharged in stable condition.

Characteristic	**N (%)**
Age (years)	
20–25	6 (75%)
26–30	1 (12.5%)
31–35	0 (0%)
>35	1 (12.5%)
Period of gestation (weeks)	
First trimester (≤12 weeks)	0 (0%)
Second trimester (13–28 weeks)	3 (37.5%)
Third trimester (29–40 weeks)	5 (62.5%)

Table 1: Distribution of patients according to age and period of gestation

Cause	**Number**	**%**
Cholelithiasis	5	62.5%
Gallbladder sludge	1	12.5%
Hypertriglyceridemia	1	12.5%
Idiopathic	1	12.5%

Table 2: Distribution of patients according to the cause

Discussion

AP during pregnancy remains a complex clinical challenge, with a relatively limited but growing body of evidence guiding management. The most common cause of pancreatic symptoms in pregnancy is cholelithiasis, where gallstones obstruct the pancreatic duct. In our study, six patients (75%) had gallbladder pathology; among these, two patients (33.3%) had a dilated CBD, and one patient (16.6%) had a dilated pancreatic duct. One patient (12.5%) had gallbladder sludge.

Another notable cause in pregnancy is hypertriglyceridemia-induced pancreatitis. In our series, one patient (12.5%) had hypertriglyceridemia (670 mg/dL). This elevation is likely due to increased estrogen levels during pregnancy, compounded by a familial predisposition to elevated triglycerides. Lipid and lipoprotein levels, including triglycerides, rise progressively during pregnancy, peaking threefold in the third trimester. Field and Barkin reported up to a 50% increase in cholesterol levels due to elevated estrogen [9,11,12]. Typically, triglyceride levels exceeding 750–1000 mg/dL can trigger acute pancreatitis, whereas normal pregnancy levels remain below 300 mg/dL. Postpartum, triglyceride levels usually decline.

Hypocalcemia is another complication; approximately 50% of women with AP develop low calcium levels, worsened by the physiological changes of pregnancy. In our cohort, five patients (62.5%) developed hypocalcemia and were treated with slow intravenous calcium gluconate under serum calcium monitoring. Other potential causes, such as drug-induced pancreatitis (e.g., tetracycline, thiazides) or alcohol intake, were not observed in our patients. Recent studies have also linked AP to over 800 mutations in the cystic fibrosis transmembrane conductance regulator (CFTR) gene[7,9,10].

Clinical presentation typically includes midepigastric and left upper quadrant pain radiating to the back or flank, anorexia, nausea, vomiting, reduced bowel sounds, and occasionally low-grade fever or pulmonary complications. In our series, all patients exhibited the classic gastrointestinal symptoms, while three (37.5%) had pulmonary involvement. Pulse oximetry readings provided early indication of hypoxemia, potentially preceding full-blown adult respiratory distress syndrome. Abdominal tenderness and muscle rigidity were observed in four patients (50%), and jaundice in three (37.5%)[11,13,14].

Misdiagnosis is common in early pregnancy, where hyperemesis gravidarum can mimic pancreatitis. In such cases, measurement of amylase, lipase, and liver function tests is essential, as elevation confirms the diagnosis. In one study of 25 cases, 11 were diagnosed in the first trimester; [7,8,10,12] however, none of our patients presented during this period. Three (37.5%) presented in the second trimester and five (62.5%) in the third trimester.

Historically, AP in pregnancy was associated with high maternal and fetal mortality. Recent advances in early diagnosis and therapeutic interventions have substantially improved outcomes, reducing both maternal and fetal risks [8,9,13,14]. In our study, there were no maternal or fetal deaths. Gallstone-related pancreatitis carries a higher relapse risk (up to 70%) with conservative treatment alone.

Ultrasound is the imaging modality of choice in pregnancy, as it safely differentiates a normal pancreas from an enlarged one and can detect gallstones, unlike CT, which carries radiation risk. Proper imaging is crucial for timely diagnosis and management, ultimately improving maternal and fetal outcomes [7,8,11,13].

EUS and MRCP are key imaging modalities for diagnosing biliary causes of acute AP during pregnancy. CT is generally avoided due to potential fetal radiation exposure. Diagnostic ERCP is reserved for select cases because of associated risks, including bleeding, perforation, pancreatitis, and fetal radiation exposure. In contrast, abdominal ultrasound, MRCP, and EUS are safer alternatives without these risks. In our study, ERCP was performed in one patient (12.5%) with fetal shielding (lead apron over the maternal abdomen) and minimized fluoroscopy time (<1 minute), which successfully identified choledocholithiasis. Literature and case reports support the cautious use of ERCP during pregnancy [13,15,16], with the second trimester generally considered the safest period to minimize potential teratogenic effects. Prophylactic antibiotics and tocolytics were administered to all patients undergoing ERCP or laparoscopic cholecystectomy.

Laboratory evaluation for AP includes serum amylase, lipase, triglycerides, calcium, and complete blood count. Normal amylase values in pregnancy range from 10–160 IU/L, while lipase ranges from 4–208 IU/L, though reference ranges vary by laboratory. Amylase may also rise in conditions such as cholecystitis, bowel obstruction, or ruptured ectopic pregnancy. In our cohort, mean serum amylase was 370 IU/L (maximum 562 IU/L) and mean lipase was 936.62 IU/L (maximum 2620 IU/L). Notably, amylase levels do not reliably correlate with disease severity, whereas serum lipase remains elevated longer after an acute episode [7,8,10].

Conservative management of AP includes intravenous fluids, nasogastric decompression, bowel rest, analgesics and antispasmodics, fat restriction, total parenteral nutrition, and antibiotics. Management of the underlying etiology, particularly gallstones, is crucial. Laparoscopic cholecystectomy is ideally performed in the second trimester, when fetal risk is minimized and uterine size poses fewer technical challenges; three of our patients (37.5%) underwent surgery during this period [11,13,14].

Currently, no standardized guidelines exist for treating gestational hypertriglyceridemia. Management of hyperlipidemia-induced AP is primarily supportive, although interventions such as lipoprotein apheresis and plasmapheresis can reduce serum triglyceride levels when necessary.

Conclusion

Although rare, AP can occur during pregnancy and poses significant clinical management challenges. Among the various causes, gallstone disease is the most frequent etiology. Diagnostic imaging options for evaluating biliary causes of AP include abdominal ultrasound, CT scan, EUS, and MRCP. ERCP should be avoided whenever possible due to associated risks such as bleeding, perforation, pancreatitis, and fetal radiation, whereas ultrasound, MRCP, and EUS are safer alternatives. Management of AP in pregnancy is primarily supportive. When indicated, laparoscopic cholecystectomy is best performed during the second trimester, minimizing fetal risk and technical difficulties related to uterine enlargement. Advances in imaging and therapeutic endoscopy have markedly improved outcomes for

pregnant patients with AP. With timely diagnosis and intervention, preterm labor can often be prevented, and the risk of recurrent attacks reduced.

LIST OF REFERENCES:

1. Pitchumoni CS, Yegneswaran B. Acute pancreatitis in pregnancy. World J Gastroenterol 2009;15:5641-6.
2. Ramin KD, Ramsey PS. Disease of the gallbladder and pancreas in pregnancy. Obstet Gynecol Clin North Am 2001;28:571-80.
3. Wilkinson EJ. Acute pancreatitis in pregnancy: A review of 98 cases and a report of 8 new cases. Obstet Gynecol Surv 1973;28:281-303.
4. Corlett RC Jr, Mishell DR Jr. Pancreatitis in pregnancy. Am J Obstet Gynecol 1972;113:281-90.
5. Montgomery WH, Miller FC. Pancreatitis and pregnancy. Obstet Gynecol 1970;35:658-64.
6. Scott LD. Gallstone disease and pancreatitis in pregnancy. Gastroenterol Clin North Am 1992;21:803-15.
7. Swisher SG, Hunt KK, Schmit PJ, Hiyama DT, Bennion RS, Thompson JE. Management of pancreatitis complicating pregnancy. Am Surg 1994;60:759-62.
8. Hernandez A, Petrov MS, Brooks DC, Banks PA, Ashley SW, Tavakkolizadeh A. Acute pancreatitis and pregnancy: A 10-year single center experience. J Gastrointest Surg 2007;11:1623-7.
9. Knopp RH, Warth MR, Carrol CJ. Lipid metabolism in pregnancy: Changes in lipoprotein, triglyceride and cholesterol in normal pregnancy and the effects of diabetes mellitus. J Reprod Med 1973;10:95-101.
10. Fields K, Barkin J. Pancreatic disease. In: Gleicher N, editor. Principles and practice of medical therapy in pregnancy. Stamford (CT): Appleton and Lange; 1998. p. 1142-7.
11. Ramin KD, Ramin SM, Richey SD, Cunningham FG. Acute pancreatitis in pregnancy. Am J Obstet Gynecol 1995;173:187-91.
12. Legro RS, Laifer SA. First trimester pancreatitis: Maternal and neonatal outcome. J Reprod Med 1995;40:689-95.
13. Jamidar PA, Beck GJ, Hoffman BJ, Lehman GA, Hawes RH, Agrawal RM, et al. Endoscopic retrograde cholangiopancreatography in pregnancy. Am J Gastroenterol 1995;90:1263-7.
14. Barthel JS, Chowdhury T, Miedema BW. Endoscopic sphincterotomy for the treatment of gallstone pancreatitis during pregnancy. Surg Endosc 1998;12:394-9.
15. Nesbitt TH, Kay HH, McCoy MC, Herbert WN. Endoscopic management of biliary disease during pregnancy. Obstet Gynecol 1996;87:806-9.
16. Zhong, Y., Xiao, Y., et al. (2020). Acute pancreatitis in pregnancy: A 10-year, single-center retrospective study. BMC Pregnancy and Childbirth, 2020;20:654.
17. Zhang, L., et al. (2022). Maternal and fetal outcomes of acute pancreatitis in pregnancy: A systematic review and meta-analysis. BMC Pregnancy and Childbirth, 2022;22:701.
18. Liu, Y., et al. (2020). Gallstone-related acute pancreatitis in pregnancy: Clinical analysis and management strategies. Journal of Gastroenterology and Hepatology, 2020;35(7):1234–1240.

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