

Perforated Duodenal Ulcer –A Rare Cause of Acute Abdomen in Pregnancy

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ABSTRACT

Acute abdomen during pregnancy is a medico-surgical emergency demanding concerted, synchronized specialties approach of obstetrician, surgeon and gastroenterologist. Duodenal perforation is one of the rarer causes of acute abdomen in pregnancy. Here, we report a case of duodenal perforation with peritonitis in third trimester of pregnancy requiring surgical management. Our aim of reporting this case is to stress the physicians to keep the differential of duodenal perforation also in mind while dealing with cases of acute abdomen in pregnancy and to proceed with multidisciplinary approach for better fetomaternal outcome.

CASE REPORT

A 25-year-old G₂P₁L₁ with previous normal vaginal delivery, presented to us at 32 weeks gestation with complaints of sudden onset severe abdominal pain of 4-5 h duration. Also, there was a history of fever 3 days back. The pain was associated with nausea but there was no vomiting, diarrhoea or urinary complaints. Her first and second trimesters were uneventful and had no history of increased blood pressure. She had no known predisposing factor for peptic ulcer disease. On examination, she had no pallor or icterus, was afebrile but mildly dehydrated with pulse 106/minute and blood pressure 110/70 mmHg. Abdominal examination revealed generalized distension with guarding and tenderness, and absent bowel sounds. Uterine fundal height corresponded to 30 weeks gestation with a live fetus in cephalic presentation and regular fetal heart rate 132 beats/minute. Speculum examination did not reveal signs of leakage or bleeding per vaginum. On vaginal examination, cervix was soft, uneffaced with closed internal os. Ultrasound demonstrated intrauterine single live fetus in cephalic presentation with decreased liquor. Placenta was fundal and there was no retroplacental clot. No abdominal pathology could be detected except distended maternal bowel loops and mild collection of fluid in the peritoneal cavity. Her serum investigations were normal except leucopenia (total leucocyte count as 1700/ μ l) and presence of toxic granules in neutrophils seen in peripheral blood film. Serum amylase and lipase levels were mildly increased. Surgeon and gastroenterologist opinions were obtained. Possibility of acute pancreatitis with a differential diagnosis of intestinal perforation was considered. She was treated with intravenous fluids and broad spectrum antibiotics and injectable proton pump inhibitors. However, patient's general condition deteriorated over the next few hours. Patient underwent laparotomy. Intra-operatively, there was about 2.5 liters of bile stained purulent fluid in the peritoneal cavity and 3cm long perforation was seen in the first part of the duodenum. Rest of the gut was found normal on exploration. The rent was repaired by omental patch closure with feeding jejunostomy followed by peritoneal lavage. Histopathology of the resected tissue confirmed it to be a chronic peptic ulcer. Few hours after laparotomy, the patient underwent preterm labour and delivered vaginally a still born male baby weighing 1.8 kg. Her recovery in postoperative period was uneventful and she was discharged one week later on antibiotics and proton pump inhibitors.

Keywords: Pregnancy, Peptic ulcer disease, Duodenal perforation

DISCUSSION

True incidence of peptic ulcer disease (PUD) in pregnancy is difficult to estimate because the main symptom of dyspepsia is common to both the conditions. Also, peptic ulcers are believed to heal during pregnancy secondary to protective physiological changes and life style modifications like improved nutrition, rest, use of antacids, avoidance of stress as well as ulcerogenic risk factors like smoking and alcohol ingestion [1]. Irrespective of the effect of pregnancy on PUD, there is no evidence of increased fetomaternal morbidity and mortality in presence of pre-existing PUD unless it is associated with complications like haemorrhage or perforation.

Gastroduodenal perforation is the commonest cause of peritonitis in general population while it rarely occurs in pregnancy. Only a few cases of duodenal perforation during pregnancy and puerperium have been reported till now [2-4]. Prompt surgical intervention in patients at high risk can save the life of the mother as well as the fetus [5].

Duodenal perforation presents as acute abdomen but its diagnosis can be very challenging and more so in third trimester. Diagnosis of a pre-existing peptic ulcer may be missed in pregnancy despite epigastric pain because of increased frequency of gastroesophageal reflux disease in pregnancy. Factors contributing to the delayed diagnosis of perforated duodenal ulcer in pregnancy include rarity of the disease in pregnancy and difficulty in eliciting the typical signs of tenderness, rigidity and pinpoint localization of abdominal pain due to stretched abdomen over enlarged gravid uterus. The radiological investigations like X-ray upper abdomen or CT-scan required to establish diagnosis of PUD are feared to have ionizing radiation effect thus raising the issue of fetal safety. The differential diagnosis of acute abdominal pain in pregnancy can be liver ischemia in severe pre-eclampsia, acute cholecystitis due to gall stones, pancreatitis, acute appendicitis or ovarian torsion. Cases of biliary peritonitis in pregnancy requiring surgical intervention have been reported [6]. Misdiagnosis can be devastating. Hence, besides baseline investigations like total and differential WBC count, serum electrolytes, liver function test and serum amylase and lipase, ultrasound of whole abdomen and pelvis is also required. Multidisciplinary approach can help in making a prompt diagnosis. In our patient, the acute abdominal pain was due to duodenal perforation. The immediate inciting event could have been the NSAIDs taken for fever.

Mild PUD is managed with lifestyle modification and drug based medication. Though studies have found PPIs safe in pregnancy, H₂-

receptor antagonists are preferable in pregnancy [7]. While most cases of dyspepsia respond to this therapy, severe or refractory abdominal pain, nausea and vomiting may warrant diagnostic endoscopy [8].

However, management of duodenal perforation requires integrated approach involving obstetrician, surgeon, gastroenterologist and a specialist from fetomaternal medicine. The management includes initial resuscitation with large-volume crystalloids, nasogastric suction, and administration of intravenous broad-spectrum antibiotics followed by laparotomy. The recommended surgery for duodenal perforation is Graham patch plication which involves primary closure of the rent with placement of omental patch for support [9].

The nonobstetric abdominal surgery in pregnancy increases incidence of preterm labour in second and third-trimester patients and reported as 26% and 82% respectively [10]. Hence prophylactic steroid administration should be considered in patients who are for surgical intervention at preterm gestation. In our case, steroid administration was withheld as the patient had significant leucopenia. For the same reason, we could not intervene early for the fetus despite scanty liquor demonstrated in the initial ultrasound report.

Although it is commonly stated that women suffering from PUD in pregnancy have a similar past history, this case illustrates that severe complication can occur in those with no previous history or risk factors.

CONCLUSION

Surgical emergencies in pregnancy are rare, which may account for considerable delay in making a diagnosis of duodenal perforation. However, high index of suspicion and early surgical intervention can considerably reduce the fetomaternal morbidity and mortality.

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