

Cholelithiasis Masquerading as Preeclampsia with Severe Features in a Patient with a History of a Cholecystectomy Case Report

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ABSTRACT

A 43-year-old multigravida patient, 12 days postpartum and with a history of cholecystectomy, presented to our institution with markedly elevated blood pressure, nausea, vomiting, epigastric pain, and headache. She met the criteria for preeclampsia with severe features and was placed on magnesium sulfate. Further investigation was required when the laboratory values and abdominal pain were unresponsive to the medications. A magnetic resonance cholangiopancreatography was done and the patient was diagnosed with cholelithiasis.

Keywords

Preeclampsia, Cholelithiasis, Cholecystectomy.

Introduction

A common physiological change during pregnancy is decreased gastrointestinal motility. Gallbladder stasis and its subsequent pathologies are a large contributor to non-obstetrical hospital admissions. Some of the common clinical presentations such as elevated blood pressure and abdominal pain overlap with clinical presentations of preeclampsia. Considering biliary pathologies when assessing a patient with mild-to-severe range blood pressures and laboratory abnormalities may allow for more efficient management of a pregnant or postpartum patient.

Case-Presentation

A 43-year-old female G5P3023, status-post primary low-transverse cesarean section and bilateral tubal ligation, presented to our institution complaining of nausea, non-bloody non-bilious vomiting, epigastric pain, and headache on postoperative day 12. Upon arrival at the emergency department, her blood pressure was in the range of 160mmHg systolic and 90mmHg diastolic. She had no history of preeclampsia intrapartum or immediately postpartum, however, her blood pressures had been increasing in the third trimester.

The patient had no other complaints and denied symptoms of blurry vision, chest pain, shortness of breath, fever, and chills. Her pregnancy was complicated with poorly controlled gestational diabetes and gestational hypertension during the recent pregnancy. Her surgical history was notable for a cholecystectomy five years ago. She denied any history of tobacco or substance abuse. Her abdomen was soft and non-distended with the incision site clean, dry, and intact. There was tenderness upon deep palpation of the right upper quadrant of the abdomen. A laboratory panel was obtained which identified elevations of aspartate aminotransferase (AST) and alanine aminotransferase (ALT) of 272 U/L and 197 U/L respectively, as well as a urine protein creatinine ratio of 1.1. Her complete blood count was within normal limits with a platelet count of 480,000/mL. The complete metabolic panel showed total bilirubin of 0.9 mg/dL, alkaline phosphatase of 442 U/L, and lactate dehydrogenase of 520 U/L.

Based on clinical presentation and laboratory findings, diagnosis of preeclampsia with severe features was established and she was started on magnesium sulfate 4g/hr loading dose and 2g/hr maintenance dose for 24 hours. She was also given metoclopramide (10 mg intravenous) for her nausea and vomiting, and Motrin for headache and abdominal pain. The patient was monitored clinically and with serial blood work. With treatment, the headache

had improved and she became normotensive. However, her gastrointestinal symptoms persisted and her liver function markers continued to rise (Table 1).

Table 1: Laboratory value trends.

	Admission day 1	Admission day 2	Admission day 3	Admission day 4
AST (U/L)	272	1055	1143	820
ALT (U/L)	197	919	1075	1190
Alkaline Phosphatase (U/L)	442	704	767	928
Total Bilirubin (mg/dL)	0.9	2.9	3.2	4.7
Glucose	103	119	103	111

An abdominal ultrasound was ordered due to her right upper quadrant tenderness returning and persistently elevated liver enzymes. The ultrasound identified a dilated common bile duct at 15mm with mild intrahepatic biliary ductal dilatation and a surgically absent gallbladder. An esophagogastroduodenoscopy (EGD) conveyed nonsteroidal anti-inflammatory (NSAID)-induced ulcers and a prominent ampulla. A computer tomography (CT) scan of the abdomen and pelvis without contrast was performed and identified both intra- and extrahepatic bile duct dilation, without stones or lesions. A magnetic resonance cholangiopancreatography (MRCP) without contrast was done which identified a common bile duct dilatation with distal choledocholithiasis. The patient was then transferred to another institution for endoscopic retrograde cholangiopancreatography (ERCP) at the recommendation of the Gastroenterologist. The stone was removed without complications and the patient was discharged home.

Upon follow-up, the patient appeared well and the laboratory levels had returned to normal values.

Discussion

Preeclampsia complicates about 2-8% of pregnancies globally, and can also present in the postpartum period [1]. Typical symptoms of preeclampsia include new-onset headache unresponsive to pain medications, nausea, vomiting, epigastric pain, as well as visual changes such as blurry vision. A right upper quadrant (RUQ) pain may also be present due to the stretching of Glisson's capsule. Laboratory manifestations of preeclampsia with severe features may include thrombocytopenia with platelets less than 100,000, renal insufficiency with a creatinine of greater than 1.1, or elevated serum liver transaminases to twice the upper limit of normal [1]. While this patient met the criteria of preeclampsia with severe features, her symptoms and laboratory abnormalities such as markedly elevated liver transaminases were manifestations of choledocholithiasis. Even though she had a cholecystectomy, gallstones may still occur. Chowbey et al. showed that the most common sites of residual gallstones following a cholecystectomy were gallbladder remnant, cystic duct remnant, and the common bile duct [2]. Stones are important sequelae if gallbladder removal is incomplete. In a retrospective chart review looking at 358 patients with biliary pancreatitis, acute cholangitis, or biliary colic due to choledocholithiasis, post-cholecystectomy patients had a median recurrence of choledocholithiasis of 210 days with 24 (80%) requiring an ERCP within 3 years [3].

Pregnancy and the postpartum period are two risk factors for the development of gallstones [4]. The mechanism by which this occurs during pregnancy is via impaired biliary emptying and subsequent development of biliary sludge. Increased cholesterol saturation of bile when stasis occurs can lead to the development of cholesterol gallstones. Notably, the incidence of gallstones increases with multiparity [5]. A study was conducted to examine gallbladders by an ultrasound in 150 nulliparous women and 980 women during the immediate postpartum period, age-matched healthy volunteers. Gallstones were detected in 12.2% of the puerperal women and 1.3% of the control group [6]. While this patient did not have a gallbladder, being postpartum significantly increased her risk of developing a biliary disease. While many obstetrical complications may arise during the postpartum period, gallstone disease is the leading non-obstetric cause for hospitalization in the first year postpartum [7]. When considering the leading causes of abdominal emergencies in a pregnant patient, symptomatic gallstone disease is the second most common abdominal emergency. Other common abdominal emergencies during pregnancy include cholecystitis, acute appendicitis, and intestinal obstruction. When evaluating this patient's laboratory values, persistent elevations in her liver transaminases with concomitant marked elevations in her alkaline phosphatase and poor improvement despite preeclampsia treatment led to an increased suspicion for biliary disease.

Given that our patient was almost two weeks postpartum with laboratory abnormalities, and elevated blood pressure, preeclampsia was high on our differential. While her blood pressure and headache were responsive to treatment; her gastrointestinal symptoms and laboratory values continued to deteriorate which is an unusual course for patients suspected and treated for preeclampsia. The elevated blood pressure may be explained by abdominal pain secondary to choledocholithiasis. This case illustrates that considering biliary pathologies as a part of differentials when faced with a similar clinical picture allows for a more thorough investigation.

Conclusion

A patient presented with postpartum choledocholithiasis mimicking symptoms of preeclampsia with severe features. Preeclampsia is the most common postpartum complication. However, a different pathology such as cholecystitis or choledocholithiasis should be considered when symptoms and laboratory values continue to deteriorate despite treatment. Such alternative etiologies may help clinicians devise a more efficient treatment course and reduce the risk of complications.

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