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Acalculous Cholecystitis Presenting as Intractable Hyperemesis during Pregnancy: A Case Report

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ABSTRACT

Nausea and vomiting manifest in more than 50% of pregnancies; in case of severe nausea and vomiting during pregnancy, or *hyperemesis gravidarum*, other diagnoses should be considered. This case report details a 34-year-old pregnant woman with diabetes whose primary symptom was nausea and vomiting; she presented with mild abdominal pain without abdominal tenderness. After hospital admission, she was treated as a case of hyperemesis. Sonography revealed acalculous cholecystitis, necessitating laparoscopic cholecystectomy that led to resolution of her condition. As hyperemesis is a diagnosis always arrived at by ruling out other possibilities, a complete physical examination should be performed and other patient symptoms must be considered in pregnant women with this disorder.

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Introduction

Nausea with or without vomiting occurs in 50% to 90% of pregnancies and can negatively affect quality of life in cases where it is persistent or of highly severe (1). If present, nausea and vomiting generally begins during the 5th week of pregnancy, with a peak intensity at nine weeks and noticeable improvement by week 20. However, in 15-20% of cases, nausea and vomiting persist into the third trimester (2).

Severe cases of nausea and vomiting during pregnancy are associated with weight loss, dehydration, ketosis, and alkalosis. Moreover, hepatic dysfunction occurs in some women, resulting in the accumulation of biliary sludge. The extended set of symptoms associated with nausea and vomiting and its other sequelae include abdominal pain, fever, headache, diarrhea, and hypertension. However, several other causes unrelated to pregnancy can cause these symptoms, namely cholecystitis, appendicitis, and the hemolysis, low liver enzymes elevated platelet count syndrome.

Acalculous cholecystitis is an inflammatory and necrotic gallbladder disease in which there are no stones in the biliary duct. This disease is associated with high rates of morbidity and mortality, and most patients who present with this condition have multiple risk factors, most notably diabetes (3-6). Acalculous cholecystitis usually manifests with symptoms such as fever and vague abdominal pain; the patient usually has leukocytosis and abnormal liver function tests.

In this case report, a pregnant woman with diabetes received a diagnosis of acalculous cholecystitis after admission for nausea and vomiting. Laparoscopic cholecystectomy was performed to address the condition and led to a reduction in the severity of her nausea and vomiting.

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Case report

A 34-year-old pregnant woman (gravida 2, para 1 [G2P1]), with not completely controlled diabetes and nausea and vomiting (to the extent that she was unable to eat solid food without experiencing these symptoms) was admitted to Omolbanin Hospital of Mashhad, Iran, in September 2015. Gestational age was eight weeks based on the last menstrual period and sonography. She was taking 14 units of neutral protamine Hagedorn and regular insulin on a daily basis to control her diabetes.

On admission, her blood sugar and ketone levels were 400 mg/dL and 3 mg, respectively. The ionogram, as well as liver function and thyroid tests showed normal results. Fasting glucose was controlled during the first admission days. Electrolyte therapy was initiated, and other diagnostic considerations were undertaken with respect to the cause of her nausea and vomiting, which persisted in severity despite administration of antiemetic drugs such as ondansetron, vitamin B6, and metoclopramide.

The patient also complained of vague abdominal pain (with a preference in the epigastria), but no tenderness was found during physical examination. Due to the unexplained presence of fluid in the pelvis and the pouch of Morison, other abdominal organs were examined. A gallbladder wall thickness of 10 mm was found without the presence of gallstones, indicating acalculous cholecystitis. The complete blood count revealed leukocytosis (white blood cells: 19,000/µL) with dominance of polymorphonuclear leukocytes (90%), leading to the decision to perform a laparoscopic cholecystectomy. Soon after the surgery, the patient's nausea and vomiting improved, and she was discharged from the hospital after ensuring tolerance to oral feeding and glycemic control.

Discussion

Nausea and vomiting is a common complication of pregnancy usually presenting in the first trimester. Nausea and vomiting is severe in 3% of pregnancies, potentially leading to hospitalization. Accordingly, accounting for every potential cause of nausea and vomiting in pregnant women during differential diagnosis is critical. In this case report, pregnancy and uncontrolled diabetes most likely led to gallbladder stasis and ischemia. The patient's primary symptom was nausea and vomiting, and *hyperemesis gravidarum* was diagnosed according to the gestational age. However, continued progression of the condition, including the development of leukocytosis and epigastric pain, led to other tests (ultrasound) that uncovered acalculous cholecystitis, an uncommon condition of pregnancy. Laparoscopic cholecystectomy eventually led to complete treatment and recovery.

While it is uncommon during pregnancy, cholecystitis is certainly associated with pregnancy and can be considered as part of the differential diagnosis for cases such as the one presented in this study. Delay in the treatment of biliary disorders may place the lives of the mother and fetus at risk.

In the review of the literature, we explored cases in which pregnant women suffered from nausea and vomiting unrelated to pregnancy. In a study by Mastubara, two pregnant women were hospitalized with nausea and vomiting (without abdominal pain) related to elevated bilirubin and aminotransferase levels accompanied by evident jaundice. Ultrasound images revealed biliary sludge. Electrolyte therapy was performed, and both patients recovered after 4-5 days. Both patients were discharged after liver function tests yielded normal results and oral feeding tolerance was demonstrated (7). Those cases differed from ours in that our patient did not have jaundice and biliary sludge was not observed on sonography.

In a case report by Joseph, a 28-year-old woman (gestational age: 7 weeks) was admitted with nausea and vomiting presumed to be related to pregnancy. Two days later, she experienced abdominal distention, and ultrasound revealed ascites and biliary duct dilation. During laparotomy, a T-tube was placed after the discovery of the spontaneous rupture of a choledochal cyst (8). That study was similar to the current case report in that the patient was initially admitted with the diagnosis of nausea and vomiting as a pregnancy-related complication before later revision.

In another case report, two pregnant women (gestational ages: 8 and 13 weeks) were hospitalized with persistent nausea and vomiting. Clinical signs and tests showed pregnancy-

related thyrotoxicosis; both women recovered after treatment with anti-thyroid agents (9).

Other studies were also found during the literature search in which women were admitted to hospital with the belief that their nausea and vomiting was a pregnancy-related complication, but eventually received another diagnosis such as tuberculosis, meningitis, cannabis intoxication, or Addison's disease (3-6).

Conclusion

Obstetricians usually manage nausea and vomiting during pregnancy without any complications. However, even though hyper-emesis is a common complication of pregnancy, there are times when considerations other than nausea and vomiting, such as the different disorders mentioned in this case report and its literature review, should be considered. Acalculous cholecystitis is an uncommon but potential cause of severe, intractable nausea and vomiting in pregnant women.

Acknowledgments

None declared.

Conflicts of Interest

The authors declare no conflict of Interest.

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