CASE REPORT

A Rare Presentation of Severe Preeclampsia with Acute Pancreatitis

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Abstract

Aim: The aim of the article is to illustrate that women with preeclamptic organ dysfunction can present with a clinical picture of acute pancreatitis.

Background: Pancreatitis is a rare condition complicating pregnancy with a quoted incidence of 1–3 cases per 10,000 deliveries, with maternal mortality and fetal loss closer to 3%. Currently, there is increasing speculation that in the absence of any known risk factors, pancreatitis may be associated with a rare spectrum of preeclampsia.

Case description: A 25-years-old primigravida at a period of gestation of 34 weeks presented with an acute onset of epigastric pain/tenderness and vomiting of one-day duration. Her BMI was 18 kg/m^2, and she did not have any risk factors for acute pancreatitis. Other known etiologies of acute pancreatitis were excluded, but an ultrasound scan revealed swollen pancreas with a thin rim of free fluid in the splenorenal pouch with normal gallbladders. Also, serum amylase was significantly elevated. On the 3rd day of her illness, blood pressure was persistently elevated along with albuminuria and with a falling trend of platelet count. Further, she developed acute renal failure with metabolic acidosis. A category 2 cesarean section was performed, and a healthy baby was delivered. On the 4th postoperative day, her biochemical parameters were back to normal. A contrast-enhanced computed tomography of the abdomen performed on the 4th postoperative day showed features suggestive of resolving interstitial pancreatitis.

Conclusion: In conclusion, acute pancreatitis should be considered as a complication of preeclampsia, especially in patients deteriorating despite management of preeclampsia.

Clinical significance: A woman with preeclampsia is at increased risk of developing systemic complications due to organ dysfunction, which may result in a unique and rare clinical picture at presentation. Thus, detecting the underlying organ dysfunction is necessary for a better pregnancy outcome.

Keywords: CT abdomen, Pancreatitis, Preeclampsia.

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Background

Pancreatitis is a rare condition complicating pregnancy with a quoted incidence of 1–3 cases per 10,000 deliveries with maternal mortality and fetal loss closer to 3%. Within and outside pregnancy, gall stones, alcohol, hyperparathyroidism, and infection with hepatitis-C virus are known risk factors for acute pancreatitis. Currently, there is increasing speculation that in the absence of any known risk factors pancreatitis may be associated with a rare spectrum of preeclampsia.[1] Increased amylase levels found in severely preeclamptic patients also suggest pancreatic involvement as a result of this multisystem disorder. In a recent population-based cohort study in Taiwan, the risk of pancreatitis in patients with preeclampsia was found to be significantly high even after adjusting for certain demographic characteristics and comorbidities.[1] We report a case of acute pancreatitis in a primigravida at 34 weeks of gestation along with severe preeclampsia with the fast deteriorating general condition without any known risk factors for acute pancreatitis.

Case Description

A 25-year-old primigravida at a period of gestation of 34 weeks presented with an acute onset of epigastric pain/tenderness and vomiting of one-day duration. Her prepregnancy BMI was 18 kg/m^2, and she had no past medical comorbidities or history of alcohol consumption. She was afebrile, and her blood pressure was 140/90 mm Hg which did not require antihypertensive treatment. Her initial PET screen investigation was normal without associated proteinuria. Until her admission at 34 weeks of gestation, her antenatal period was unremarkable with satisfactory growth of the fetus. An ultrasound scan performed at this stage was reported as having a swollen pancreas with a thin rim of free fluid in the splenorenal pouch. The gallbladder was normal with no gallstones. The serum amylase performed at this stage was significantly elevated (1765 U/L). Triglycerides, total cholesterol, and serum calcium levels were within normal limits

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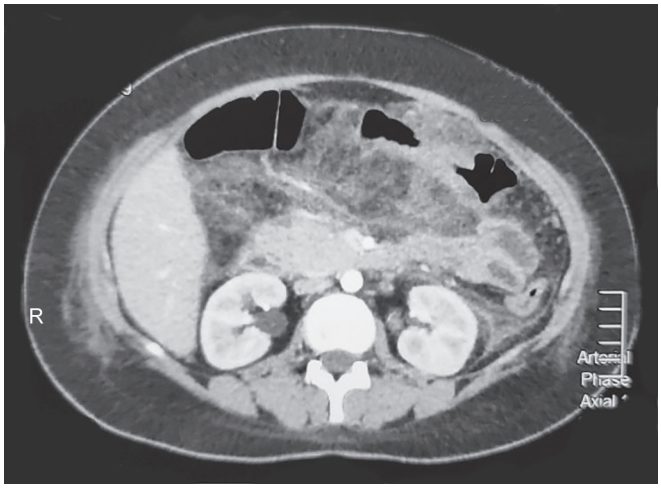

Fig. 1: Edematous pancreas with no peripancreatic collection

adjusted for pregnancy. Based on the above findings, a diagnosis of acute pancreatitis with PIH was made and was managed by a multidisciplinary team. She was investigated extensively to exclude other predisposing causes for acute pancreatitis namely gall stones, hyperparathyroidism, and infection with hepatitis-C virus, which turned out to be normal.

Supportive management with intravenous fluids and analgesia was provided with an initial period of fasting, and she was constantly monitored. On the 3rd day of her illness, her blood pressure was persistently recorded as 150/110 mm Hg with 2+ of albuminuria and with a falling trend of platelet count to 146×10^9/L from the previous value of 207×10^9/L. Despite intensive management by a multidisciplinary team, her general condition deteriorated, and she developed acute renal failure with metabolic acidosis. Her care was transferred to the intensive care unit. Her metabolic acidosis was corrected. In view of the deteriorating condition and the development of persistent fetal tachycardia, a category 2 cesarean section was performed. Her baby was delivered with a normal APGAR score weighing 2860 gm. Her care was continued at the ICU and her general condition including pancreatitis showed a steady improvement. On the 4th postoperative day, her biochemical parameters were back to normal. A contrast-enhanced computed tomography of the abdomen performed on the 4th postoperative day was reported as an edematous pancreas with no peripancreatic collection suggestive of resolving interstitial pancreatitis (Fig. 1).

Discussion

Pancreatitis is the inflammation of the pancreatic glandular parenchyma. The salient clinical presentation is abdominal pain and elevated serum pancreatic enzymes. It carries a higher mortality. Systemic inflammatory response syndrome and organ failure are the main causes of death in the first 2 weeks of acute pancreatitis, and sepsis is the main cause of death after 2 weeks.[2]

Preeclampsia is defined as the presence of de novo hypertension (≥140 mm Hg systolic or ≥90 mm Hg diastolic) after 20 weeks of gestation combined with proteinuria or other maternal organ dysfunction. The increased systemic inflammatory response plays a critical role in the pathogenesis of preeclampsia, leading to edema, extravasation, and increased damage to the vascular bed of the placenta, kidneys, and other organs.[3]

There is increasing speculation that pancreatitis may be associated with a rare spectrum of preeclampsia with several case reports and recent data quoting a strong association with severe preeclampsia (odds ratio 7.85).[4]

A population-based cohort study in Taiwan further supports the above finding stating that the risk of pancreatitis in patients with preeclampsia was found to be significantly high even after adjusting for certain demographic characteristics and comorbidities.[1]

These findings and speculation are supported by the fact that microvascular abnormalities observed with preeclampsia and eclampsia can affect cerebral, placental, hepatic, renal, and splanchnic circulation. As a result of severe disturbances in microcirculation due to endothelial damage, it is possible that the pancreatic vasculature can also be altered and contributes to acute pancreatitis.

In the case of our patient, she was extensively investigated and was excluded from known risk factors for acute pancreatitis.

Given the finding that her preeclampsia improved soon after delivery of the fetus along with her acute pancreatitis within 36 hours of delivery, it could be speculated that her acute pancreatitis could have been part of the systemic inflammatory response of preeclampsia.

Conclusion

In conclusion, acute pancreatitis should be considered as a complication of preeclampsia, especially in patients deteriorating, despite management of preeclampsia.

Hence, early recognition and a multidisciplinary approach to this condition, including timely delivery of the fetus are often required for improved outcomes.

Disclosure

The patient has given written informed consent for the case to be published not disclosing her identity. All personal information has been removed to preserve confidentiality.

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