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Severe eclampsia and HELLP syndrome at 18 weeks of pregnancy in a patient with chronic hypertension

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ABSTRACT

Preeclampsia is a pregnancy specific disease characterized by hypertension and proteinuria, by definition, developing after 20 weeks of pregnancy. Here we present an atypical case of severe preeclampsia complicated by generalized convulsions (eclampsia) and hemolysis, elevated liver enzymes, and low platelet count syndrome in an 18 weeks pregnant patient with chronic hypertension. Occurrence of these complications was preceded by upper right quadrant abdominal pain and severe hypertension. In this case no evidence of autoimmunity disorders or molar pregnancy was found.

1. Introduction

Preeclampsia before 20 weeks of gestation is rare and typically associated with molar pregnancy or antiphospholipid syndrome[1]. The onset of the generalized tonic-clonic seizures in a preeclamptic woman is termed eclampsia. Hemolysis, elevated liver enzymes, and low platelet count (HELLP) syndrome is serious complication of preeclampsia characterized by hemolysis, elevated liver enzymes, and low platelet count. Eclampsia and HELLP are associated with substantially increased risk of morbidity and mortality, both to the fetus and mother[2]. Here, we present an unusual case of eclampsia and HELLP syndrome in a 39-year-old woman that occurred at 18 weeks of pregnancy.

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2. Case report

A 39-year-old patient, G3P2, BMI 34.4 kg/m^2, was admitted to a local hospital at 18 week of pregnancy due to elevated blood pressure up to 180/100 mmHg and right upper abdominal quadrant pain. Since 4 years she has been treated for hypertension. After confirmation of pregnancy the patient was commenced on methyldopa (250 mg qid). Her obstetric history was unremarkable.

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The patient negated use of illicit drugs. On physical examination marked liver tenderness on touch was found. However, generalized abdominal or rebound tenderness were absent. Obstetric examination was normal. Obstetric ultrasound confirmed a single live fetus without any major malformations at estimated gestational age of 17 weeks and 6 days.

Laboratory tests revealed slightly elevated aspartate aminotransferase (121 U/L) and alanine aminotransferase (181 U/L) as well as hyperleukocytosis (22.81/mL) and hyperglycemia (157 mg/dL). There was a tendency towards hemoconcentration (hemoglobin 15.1 g/dL, hematocrite 41.8%). Platelet count and other lab results including: gamma glutamyl transpeptidase, amylase, lipase, blood urea nitrogen, creatinine, total bilirubin, C-reactive protein and electrolytes were within the normal range. Abdominal ultrasound excluded cholelithiasis. Screening for infections ruled out hepatitis.

Increase in the dose of methylodopa to 500 mg qid as well as administration of antispasmodics resulted in resolution of abdominal pain and decrease of blood pressure down to 145/80 mmHg.

During the next 2 days patient`s condition was stable, pain in the upper right abdominal region ceased, laboratory tests came down to normal levels. The patient was consulted by a gastroenterologist, who recommended liver-protection treatment, followed by blood tests within the next 2-3 d.

On the 3rd night of hospitalization strong pain in the right upper abdominal quadrant recurred. Two hours later blood pressure rose up to 215/140 mmHg and was followed by generalized tonic-clonic convulsions.

Seizure control was achieved with 4 g of $MgSO_4$ i.v. infused over 20 min and, due to unclear pathogenesis of convulsions, diazepam 10 mg i.v., followed by maintenance infusion of 2 g/h $MgSO_4$. Considering the severity of hypertension intravenous urapidil 12 mg/h was administered.

The patient regained consciousness shortly after seizures cessation.

Laboratory blood tests revealed abnormalities characteristic for HELLP syndrome: highly elevated aspartate aminotransferase (1091 U/L), alanine aminotransferase (608 U/L) and thrombocytopenia (PLT 77 000/μL). Other laboratory alterations included elevated D-dimers (68 746 ng/mL), uric acid (8. 94 mg/dL), total bilirubin (1.4 mg/dL), and (GGTP 122 U/L). Moreover, significant proteinuria (75 mg/dL) was noted.

The patient accepted the proposal of pregnancy termination. Condition of the patient and laboratory tests improved quickly after the procedure. Seven days later the patient was discharged.

An autoimmune screen performed on the follow-up visit revealed no abnormalities. Pathological examination of placenta revealed no signs of molar degeneration.

3. Discussion

Preeclampsia before 20 weeks of pregnancy is a rare condition. Most of early diagnosed cases were associated with trisomy and molar trophoblast degeneration or antiphospholipid syndrome[1]. Preeclampsia without these underlying abnormalities, referred as "pure" early preeclampsia[3], is exceptionally rare. Tanaka *et al* identified only 4 reports of this condition, including their own. Additionally, 3 more cases complicated by HELLP syndrome before 20 week of pregnancy were described[4-6].

Our case was marked by a rapid progression of the disease leading to the life-threatening complications. Interestingly, development of eclampsia and HELLP syndrome was preceded by right upper abdominal quadrant pain, a well-known warning symptom in preeclamptic patients, though rather confusing in the early pregnancy. This symptom is regarded to be a manifestation of liver involvement such as necrosis, ischemia and edema stretching liver (Glisson) capsule[2]. Together with headache and visual disturbances it is a presage of the onset of eclamptic seizures. However, may as well be attributed to cholelithiasis, hepatitis, gastritis or appendicitis that are more likely to complicate pregnancy before 20 week. Our case shows that even in the early pregnancy this sign may be indicative of sever preeclampsia.

Regarding the high rates of major maternal complications and perinatal mortality; exceeding 60% and 80%, respectively, the expectant management of patients with severe preeclampsia at extreme premature gestational age is not recommended[7]. Termination of pregnancy is a dramatic decision, but often life-saving for the mother. Taking into account that neonatal survival rate in cases of severe preeclampsia before 24 weeks of gestation is as low as 6.6% the procedure seems to be fully justified[7].

In conclusion, this report demonstrates that eclampsia and HELLP syndrome may complicate preeclampsia even before 20 week of pregnancy. Diagnostic approach towards identifying the origin of upper abdominal pain in hypertensive patient in mid-pregnancy should include this entity.

Conflict of interest statement

The authors report no conflict of interest.

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