HELLP: An Obstetrical Emergency

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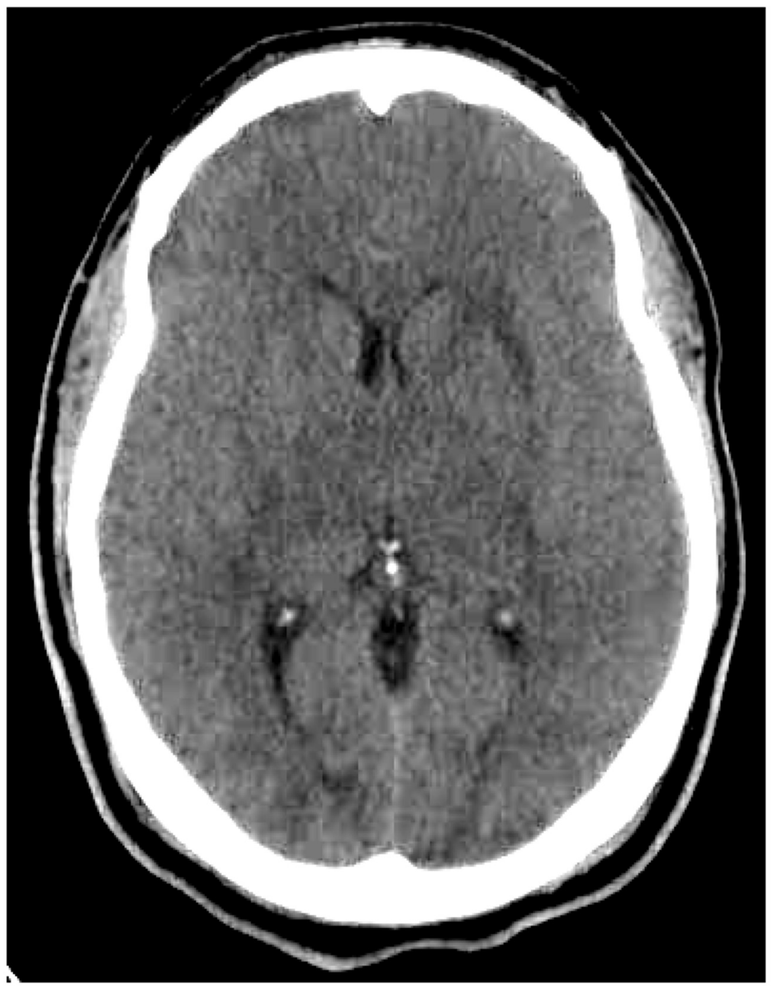
Introduction

HELLP (Hemolysis, Elevated Liver enzymes, and Low Platelets) syndrome is a relatively rare condition that occurs between 20 weeks gestation and 6 weeks postpartum in 0.1 to 1% of pregnancies. The pathophysiology is thought to be secondary to microangiopathy and activation of intravascular coagulation [1].

Figure 1



Note. Loss of sulci/gyri and lateral ventricles as seen in cerebral edema.

Case Report

We present a case of a 32-year-old African-American female of 27 weeks gestation who transferred from our facility from an outside hospital following a cardiac arrest. She originally presented to the outside facility for seizure-like activity and altered mental status. She was noted to be markedly hypertensive with a blood pressure of 240/138. She began to seize and was intubated but underwent cardiac arrest shortly after intubation. ROSC was obtained after 3 rounds of epinephrine and 2 doses of sodium bicarbonate. Patient was started on Cardene for blood pressure management, Cerebyx for seizure prophylaxis, and propofol for sedation. A CT scan was performed which revealed multifocal ischemia/infarct with early increased intracranial pressure **(Figure 1)**. Laboratory evaluation revealed a sodium of 135, potassium 3.7, bicarbonate 14, BUN 22, creatinine 1.3, calcium 8.4, alkaline phosphatase 119, ALT 94, AST 141, total bilirubin 1.5, WBC 13.8, hemoglobin 11.9, platelet count 48.

Upon arrival to our facility, she remained GCS 3T on propofol. Repeat blood work was obtained which included a serum hCG of 11,557. Her serum hCG resulted positive. POCUS revealed a fetus with a heart rate of 150. Repeat blood work revealed an AST 190, ALT 125, platelet count 62, LDH of 2,102, haptoglobin <8.0.

With these new findings diagnosis of HELLP syndrome was made. The patient was started on nicardipine with a goal of 20% reduction from initial blood pressure. She was also given 6g of magnesium sulfate loading dose with a 2g/h IV infusion. Patient was continued on propofol for sedation. Betamethasone IM was given for fetal lung maturation and the patient was then transferred to a hospital with obstetrical capabilities for delivery.

Once transferred to the outside facility, she immediately underwent a Cesarian section. Her blood pressure and labs continued to improve after her procedure. MRI revealed evidence of posterior reversible encephalopathy syndrome (PRES) which women with eclampsia are particularly at risk [2]. Her MRI also showed evidence of anoxic encephalopathy. Our patient continued to improve but ultimately required tracheostomy and PEG placement and is now under the care of a local long-term acute care facility.

Discussion

HELLP Syndrome is a severe form of preeclampsia found in pregnant women after 20 weeks gestation (generally between 28 and 37 weeks gestation). Pre-eclampsia criteria include a systolic blood pressure ≥ 140 and/or a diastolic blood pressure ≥ 90 on at least two occasions at least four hours apart and one or more of the following: proteinuria (≥2+ in a random dipstick), platelet count <100,000, serum creatinine >1.1 mg/dL, liver transaminases at least twice the upper limit of normal, pulmonary edema, new-onset and persistent headache, visual symptoms [3]. The additional findings of an LDH > 600, AST/ALT > twice the upper limit of normal, severe anemia, and platelet count < 100,000 help to classify our patient as HELLP syndrome [4]. Pre-eclamptic patients may progress to eclampsia which is classified as pre-eclampsia with convulsive manifestations. These patients may develop elevated cerebral perfusion pressure, cerebral edema, and hypertensive encephalopathy [5].

Conclusion

- The biggest risk factor for HELLP is a previous history of preeclampsia/eclampsia or HELLP.
- The pathogenesis of HELLP is unclear and does not display a genetic component.
- As shown, HELLP has a very broad presentation therefore it is necessary to keep a broad differential.
- Early seizure prophylaxis with magnesium, blood pressure control, and fetal delivery are essential in the management of HELLP.

References

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