Hemolysis, Elevated Liver Enzymes, Low Platelets (HELLP) Syndrome leading to Subarachnoid Hemorrhage:

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LEARNING OBJECTVES

1. Discuss the characteristics and sequela of HELLP syndrome
2. Discuss predisposition for intracranial bleeding due to HELLP Syndrome

CASE PRESENTATION

- 29-year-old G4P3003, presented to OMC Labor and Delivery Unit for evaluation of seizure which occurred at outpatient OB clinic.
- Patient had reported decreased fetal movement that morning and contacted her OB/GYN for an evaluation.
- In the office, patient was waiting for 2 hours prior to evaluation. Patient had a Category 3 tracing on NST and shortly after experienced a seizure lasting 3 minutes, transported to OMC
- At OMC patient taken emergently to OR where no fetal heart rate was found on ultrasound, patient was transported to L&D Unit to be given Magnesium Sulfate and for induction of labor for fetal demise.
- In L&D, patient had another seizure lasting 1 minute, prompting a Rapid Response.
- Patient had a stat CT head which demonstrated a subarachnoid hemorrhage that extended to the subdural space and possibly into the pituitary. Was found to have platelet count of 20,000.
- Code Neuro called, decision made to transfer patient to Jersey Shore Medical Center for further medical management..

PHYSICAL EXAMINATION

BP: 160/102, HR 100, RR 20, Temp 98.2
No FHR

Alert, cooperative, NAD
Lungs clear to auscultation, normal heart sounds, abdomen soft/nontender, no edema

LABORATORY DATA

WBC 11.3	**AST** 2,490	**Cr** 1.27
Hgb 12.3	**ALT** 1,093	**Trop** 0.09
Plt 20	**Bili** 5.2	**LD** 2,700

PATHOPHYSIOLOGY

- Pathogenesis still unclear, considered to be a variant of preeclampsia but may be different entity altogether.
- Possibly due to manifestation of an insult which leads to endothelial damage and platelet activation resulting in vasospasm, platelet aggregation, and further endothelial injury
- Microangiopathic hemolytic anemia --> RBCs fragmented as they pass through small blood vessels.
- Peripheral smear can show spherocytes, schistocytes, burr cells.
- Elevated LFTs may be due to obstruction of hepatic blood flow by fibrin deposits in sinusoids which can lead to intrahepatic hemorrhage.

Preeclampsia/Eclampsia vs HELLP

Preeclampsia

- 5-7% of all pregnancies
- Nulliparous
- New onset elevated BP & proteinuria
- >140/90, 1+ on urine dipstick
- Occurs at >20 weeks gestation

- Severe preeclampsia: >160/110,
- 5+ urine dipstick OR end organ damage

- Eclampsia: Preeclampsia complicated with new onset seizures

HELLP

- 0.1 - 1% of pregnancies
- Multiparous
- Generalized malaise, epigastric/RUQ pain, N/V, headache
- Hypertension/proteinuria may be absent or mild

- Hemolysis, elevated LFTs, low platelet count
- PT, PTT, and fibrinogen usually normal

CONCLUSIONS

The presence of elevated LFTs, low platelets, seizure activity, and hemorrhagic complications clarified the diagnosis of HELLP Syndrome

HELLP must be promptly diagnosed and treated due to its associated maternal and fetal complications.

Due to variable nature of presentation, diagnosis is generally delayed 8 days with conflicting presentations thought to be cholecystitis, esophagitis, gastritis, hepatitis

SUMMARY

History, examination, and lab data are essential in correctly diagnosing HELLP.

Management consists of magnesium sulfate for seizure prophylaxis and treating hypertension if present

Delivery is best treatment for gestational age >34 weeks.