

HELLP SYNDROME

Definition: It is a syndrome described as **Hemolysis, Elevated Liver Enzymes and Low Platelets**. It can be seen as a variant of preeclampsia, but it can also be seen as a separate entity. It is believed to be due to abnormal vascular tone. There is believed to be an insult leading to microvascular endothelial damage and intravascular platelet activation. The purpose of this chart is to help nursing staff recognize patient and fetal risk factors, recognize signs and symptoms and to understand treatment and management.

Risk Factors	<ul style="list-style-type: none"> • Multiparous, • Age greater than 25, • White race, • History of poor - pregnancy outcome • Prior pregnancy with HELLP • Presence of eclampsia/preeclampsia 		
Clinical Presentation	<ul style="list-style-type: none"> • Typically occurs in the third trimester or sometimes after childbirth • Malaise • Epigastric pain • Right upper quadrant abdominal tenderness • Hypertension- Defined as greater than 140> or equal to 140/90 • Proteinuria- can be mild • Nausea/vomiting 	<p style="text-align: center;"><u>Least common symptoms:</u></p> <ul style="list-style-type: none"> • Headache • Visual changes • Jaundice • Ascites 	<p style="text-align: center;"><u>Maternal Complications:</u></p> <ul style="list-style-type: none"> • Abruptio placenta • Disseminated intravascular coagulation (DIC) • Severe postpartum bleeding • Stroke, cerebral hemorrhage • Renal failure • Increased risk of HELLP in future pregnancies • Maternal Death <p style="text-align: center;"><u>Fetal Complications:</u></p> <ul style="list-style-type: none"> • Prematurity • Placental insufficiency • Intrauterine growth restriction • Neonatal intraventricular hemorrhage • Fetal demise

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<p>Diagnosis/Lab Values: Think HELLP</p>	<p>↑RBC destruction ↑LDH (>600 IU/L) ↑Bilirubin (>1.2 mg/dl) Burr cells and schistocytes ↑ LFTs (AST > 70IU/L) ↓Platelets (< 150 K)</p>	<p><u>Thrombocytopenia Classifications:</u></p> <p>Class I: Platelet count ≤50,000 cells/microL plus LDH >600 IU/L and AST or ALT ≥70 IU/L</p> <p>Class II: Platelet count >50,000 but ≤100,000 cells/microL plus LDH >600 IU/L and AST or ALT ≥70 IU/L</p> <p>Class III: Platelet count >100,000 but ≤150,000 cells/microL plus LDH >600 IU/L and AST or ALT ≥40 IU/L</p>	
<p>Differential Diagnosis</p>	<ul style="list-style-type: none"> • Acute fatty liver of pregnancy • Thrombotic thrombocytopenic • Hemolytic uremic anemia • Gestational Thrombocytopenia • Systemic lupus erythematosus (SLE) 		
<p>Treatment Need 3ml, 10ml, and 20ml syringes, appropriate needles and tubing sets</p>	<ul style="list-style-type: none"> • Stabilize mom • Consult MFM for pregnancies ≤ 34 weeks gestation • May start anti-hypertensive agent • Initiate Magnesium Sulfate for convulsions • Have Calcium Gluconate at the bedside 	<p style="text-align: center;"><u>Medications: Oral</u></p> <p>Labetalol: 200mg po and repeated in 30 minutes, if needed</p> <p>Nifedipine: 10 mg PO and repeated in 30 minutes, if needed</p> <p>Calcium gluconate 1000 mg/10ml vial: 1000 mg/10 ml IV over 2-5 minutes</p>	<p style="text-align: center;"><u>Medications: Intravenous</u></p> <p>Labetalol (120mg/20ml):</p> <ul style="list-style-type: none"> • First dose-20 mg (4 ml) IV • Second dose- 40 mg (8 ml) if not effective within 10 minutes • Then 80 mg (16 ml) every 10 minutes <p style="text-align: center;">(Maximum total dose of 300 mg/60ml)</p>

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			<p>Hydralazine (20mg/ml vial): Initial: Draw 0.25 ml from the vial. 5-10 mg (0.25-0.5 ml) doses IV every 15-20 minutes</p> <p>Magnesium 20 grams/500 ml bag: IV (<i>Use Magnesium Sulfate Continuous Infusion under L&D protocol in Alaris Pump Library</i>):</p> <ul style="list-style-type: none">• Initial (Loading Dose): 4-6 g (100 ml – 150 ml) over 20 minutes• Maintenance Dose: 1-2 g/hour (25 ml/hr – 50 ml/hr) continuous infusion <p><u>IV MEDICATIONS USED BY ANESTHESIOLOGY PROFESSIONALS ONLY:</u></p> <p>Esmolol 100mg/10ml vial-1-2 mg/kg (0.1-0.2 ml/kg) IV over 1 minute</p> <p>Propofol 10mg/ml, 20ml vial-30-40 mg (3-4 ml) IV bolus</p>
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