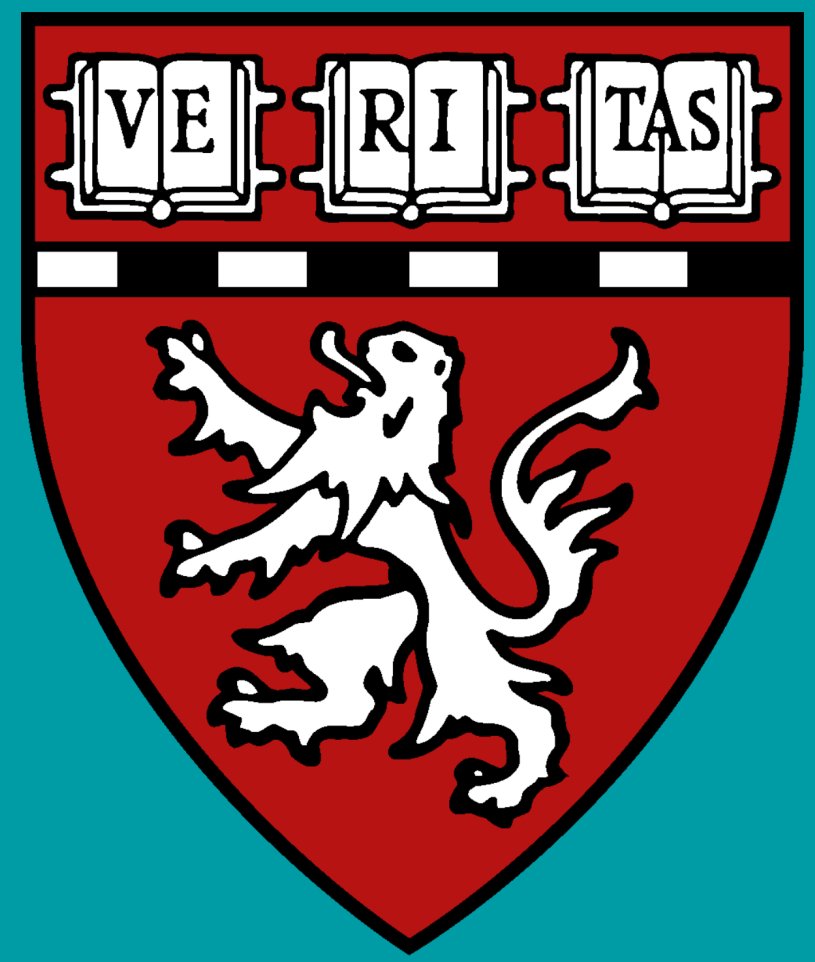


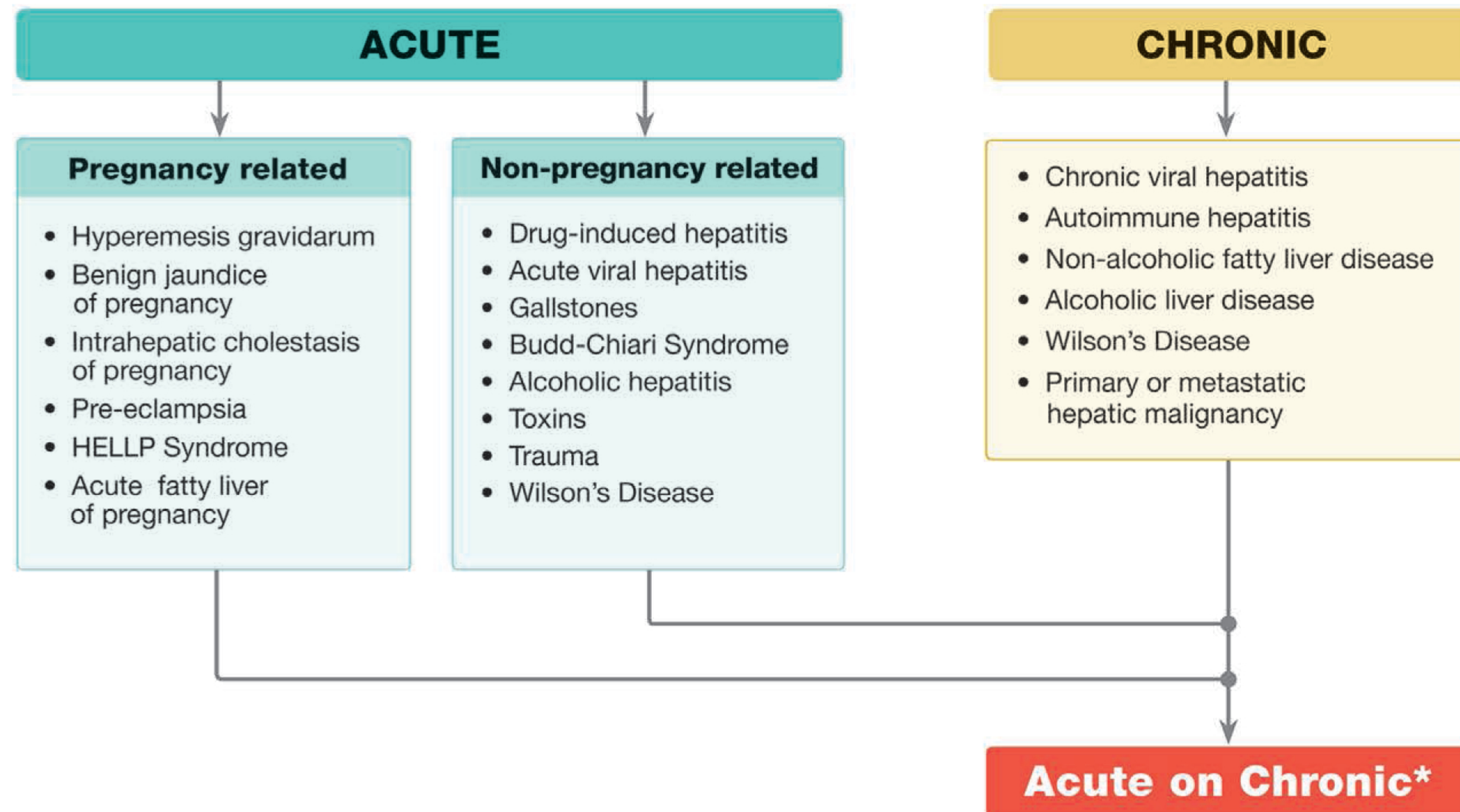


Anesthetic Management of Acute Fatty Liver of Pregnancy: A Case Report



Matthew Thimm, MD, Logan Mauney, MD, Erin E. Haggerty, MD
Massachusetts General Hospital Department of Anesthesia, Critical Care and Pain Medicine

Differential of Liver Disease in Pregnancy



Background—AFLP

- Fatty acid metabolism dysfunction leading to microvesicular steatosis that can progress to acute liver failure
- Uncommon complication of pregnancy, estimates range from 1-3 per 10,000 deliveries
- Presenting symptoms are non-specific including nausea, vomiting, and malaise but may progress and include jaundice and encephalopathy
- Laboratory studies notable for elevated liver enzymes, renal impairment, coagulopathy, leukocytosis, thrombocytopenia, hypoglycemia
- Potential for significant morbidity including fetal demise and maternal death
- Management includes delivery, supportive care, and close monitoring for complications

THE CASE:

37 y.o. G2P1001 at 39w2d presented in active labor. She was hypertensive to the 140s/70s and was started on magnesium for preeclampsia with severe features. A CSE was placed, and she underwent an uncomplicated SVD within 90 minutes.

THE COURSE:

Admission Labs

- **Hgb** 13.1
- **Plt** 211
- **Cr** 1.9
- **AST** 278
- **ALT** 356
- **Bilirubin** 5
- **Glucose** 76

Day of Delivery		Day 0-1	Day 2-4	Postpartum Follow Up	
Two hours postpartum develops significant bleeding	Transfused: 2 units FFP 1 unit cryoprecipitate	Extended monitoring on labor and delivery	Epidural removal deferred given persistent coagulopathy	Two-weeks postpartum:	Three-months postpartum:
Receives carboprost, misoprostol, and tranexamic acid	<ul style="list-style-type: none">• INR 1.9• PTT 37.9• Fibrinogen 171	Receives additional 1 unit FFP, 1 unit cryoprecipitate, 1 unit packed red blood cells	Epidural ultimately removed 4 days postpartum	<ul style="list-style-type: none">• Hgb 10.3• Plt 429• AST 65• ALT 62• Bilirubin 2.2• INR 1.0	Patient feels well and LFTs have normalized
EBL 1.5L		Started on Vitamin K	<ul style="list-style-type: none">• INR 1.6		<ul style="list-style-type: none">• AST 24• ALT 19• Bilirubin 0.5
<ul style="list-style-type: none">• INR 2.8• PTT 48.2• Fibrinogen 66					

Distinguishing AFLP from Preeclampsia and HELLP Syndrome:

- Hypertension is more common and often more severe in preeclampsia
- Preeclampsia/HELLP are associated with greater proteinuria
- AFLP does not usually present with thrombocytopenia initially
- AFLP is more likely to involve greater bilirubin elevation, more significant coagulopathy, leukocytosis, and hypoglycemia
- AFLP can cause encephalopathy and elevated ICP, while HELLP may involve headache and visual disturbances

Tennessee Classification of HELLP:

Hemolysis:

- LDH > 600 U/L

Elevated Liver Enzymes:

- AST > 70 U/L

Thrombocytopenia:

- Platelets: <100,000 /L

Swansea Criteria of AFLP:

- Vomiting
- Abdominal pain
- Polydipsia/polyuria
- Encephalopathy
- Elevated bilirubin
- Hypoglycemia
- Leukocytosis
- Elevated LFTs
- Elevated ammonia
- Elevated urate
- Acute kidney injury
- Coagulopathy
- Ascites or echogenic liver on ultrasound
- Microvesicular steatosis on biopsy

Anesthetic Considerations:

- Consider coagulopathy and illness trajectory when planning neuraxial versus general anesthetic
- Prepare for blood loss with adequate access
- Consider invasive blood pressure monitoring
- Correct coagulopathy with blood products, administer tranexamic acid
- Involve ICU if concern for developing liver failure

