TABLE 7. Liver Diseases Unique to Pregnancy

	Hyperemesis Gravidarum	ICP	HELLP	AFLP
Trimester	First (rare second/third)	Second or third	Second or third	Third or postpartum
Prevalence	0.35%-2.0%	0.4%-10%	0.2%-0.6% (preeclampsia affects 3%-5%)	0.005%-0.010%
Risk factors	Prior history	Multiparous, metabolic syndrome, HCV infection, personal or family history of ICP, ABCB11, ABCB4, and ATP8B1 mutations	Preexisting hypertension, DM, advanced maternal age, multiple gestations, previous history of preeclampsia	Primiparous, multiple gestations, male fetus
Clinical findings	Vomiting with weight loss ≥5% of prepregnancy body weight, dehydration	Generalized pruritus, especially palms and soles, without rash	Abdominal pain, nausea/vomiting; commonly have preeclampsia	Abdominal pain, nausea/vomiting, jaundice, hypoglycemia If hepatic failure, will have encephalopathy
Laboratory findings	Abnormal AST and ALT seen in ~ 50% but rarely >1,000 U/L and typically improve with hydration	AST and ALT 2-30 times the ULN	AST and ALT typically >500 units/L	AST and ALT 300-1,000 U/L
	Jaundice rare	Total bile acids >10 μmol/L	Platelets <50 L to 150 × 10^9/L Bilirubin <5 mg/dL	Low antithrombin III, elevated PT, low fibrinogen, elevated bilirubin, elevated LDH
	Ketonuria		Hemolysis (schistocytes, spherocytes, reticulocytes); hyperuricemia, markedly elevated LDH >600 units/L	Platelets <100,000 × 10^9/L
	Electrolyte abnormalities			If ALF, will have coagulopathy, hypoglycemia, hyperuricemia, and DIC
Diagnosis	Clinical	Clinical plus elevated bile acids >10 μmol/L are sufficient for diagnosis	Clinical + maternal organ dysfunction, including renal, hepatic, neurologic, or hematologic complications, uteroplacental dysfunction, or fetal growth restriction	Clinical
	Upper endoscopy rarely indicated	Elevated AST and ALT are frequent but not necessary for diagnosis US may exclude biliary causes if needed		Swansea criteria can be used (high sensitivity but low specificity if acute liver failure)

Abbreviations: DM, diabetes mellitus; LDH, lactate dehydrogenase; ULN, upper limit of normal.

metoclopramide, and promethazine (Table 4). Oral prednisolone therapy has no proven benefit; data for intravenous corticosteroids are conflicting but can be considered for severe disease.[353] If treated early, hyperemesis gravidarum is not usually associated with any major adverse maternal or fetal outcomes[354]; low birth weight and premature delivery have been associated, although long-term health effects are unknown.[355] Recurrence is high with subsequent pregnancies, although there is no association with chronic liver disease.

GUIDANCE STATEMENTS

- Treatment of hyperemesis gravidarum is supportive with rehydration, correction of electrolyte abnormalities, thiamine supplementation, and anti-emetic therapy.
- Liver chemistry abnormalities typically resolve with hydration and resolution of vomiting. Persistent liver chemistry abnormalities, despite symptom resolution, should prompt investigation for another etiology.