What Is Acute Fatty Liver of Pregnancy?

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Jessica Palmer and Joelle Borhart

Pearls and Pitfalls

- Acute fatty liver of pregnancy (AFLP) is rare but associated with high morbidity and mortality for both the mother and the fetus.
- Three percent of pregnant women will develop some sort of liver dysfunction.
- There is significant overlap between preeclampsia; eclampsia; the syndrome of hemolysis, elevated liver enzymes, and low platelets; and AFLP.
- Emergency department management of AFLP is maternal stabilization and emergent obstetric consultation. Definitive management is delivery.

Acute fatty liver of pregnancy (AFLP) is a rare complication with high morbidity and mortality for both mother and fetus. It tends to occur in the third trimester, typically between 30 and 38 weeks gestation [1, 2].

In AFLP, there is microvesicular fatty infiltration of liver hepatocytes. Several genetic defects have been found that predispose women to AFLP, most commonly long-chain 3-hydroxyacyl-coenzyme A dehydrogenase (LCHAD), an autosomal recessive genetic inborn error of metabolism [3]. Usually, women who are heterozygous for this disorder are asymptomatic until becoming pregnant. However, these women may be at increased risk for developing AFLP, especially if they carry a fetus that is homozygous for LCHAD. When the fetus is homozygous for LCHAD, it has reduced ability to oxidize long-chain fatty acids in the liver. The unoxidized fatty acids from the fetus are then transferred through the placenta to the mother. This leads to a buildup of toxic metabolites in the maternal liver [4]. These toxic metabolites, in addition to the metabolic stress of the third trimester and environmental stressors such as a high-fat diet, can lead to AFLP. There are cases of AFLP that occur in the absence of LCHAD defects, suggesting another possible etiology [5, 6].

The presentation of AFLP ranges from non-specific symptoms such as anorexia, malaise, nausea, vomiting, and abdominal pain to fulminant liver failure including hypoglycemia, coagulopathy, jaundice, and encephalopathy [2, 4, 6]. With progression of disease, patients can develop ascites, pleural effusions, renal failure, and respiratory failure [2]. The reported maternal mortality is 18%, while the reported fetal mortality is 23% [1].

Approximately 3% of pregnant women will develop some sort of liver dysfunction [7]. There is significant clinical overlap between the various liver complications of pregnancy including preeclampsia; eclampsia; the syndrome of hemolysis, elevated liver enzymes, and low platelets (HELLP); and AFLP, and distinguishing between these complications is challenging. The Swansea criteria can be used to aid in diagnosis of AFLP [8] [Table 108.1].

Table 108.1 Swansea criteria for the diagnosis of acute fatty liver of pregnancy [8]

Six or more of the following, in the absence of other diagnoses
Vomiting
Abdominal pain
Polydipsia/polyuria
Encephalopathy
Elevated bilirubin
Hypoglycemia
Elevated uric acid
Leukocytosis
Ascites or bright liver on ultrasound
Elevated transaminases
Elevated ammonia
Renal impairment
Coagulopathy
Microvesicular steatosis on liver biopsy

J. Palmer · J. Borhart (✉)
Department of Emergency Medicine, MedStar Washington Hospital Center & MedStar Georgetown University Hospital, Washington, DC, USA
e-mail: Jessica.l.palmer@medstar.net

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For emergency physicians, the management of all four disorders is the same: maternal stabilization and emergent obstetric consultation. The definitive treatment for all four disorders is delivery.

Suggested Resources

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