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Liver disease in pregnancy

Victoria Geenes, MBBS, PhD, Clinical Research Fellow, Catherine Williamson, MBChB, MD, Professor of Women's Health *

Women's Health Academic Centre, King's College London, London, UK

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Liver disease in pregnancy, either pre-existing or pregnancy specific, can be associated with a significant risk of maternal and fetal morbidity and mortality. Here, we review the presentation, management and perinatal outcomes of common causes of liver disease.

Introduction

The liver plays several important roles, including metabolism and excretion of endobiotics, such as cholesterol and bilirubin, and xenobiotics. It also synthesizes several important proteins, for example clotting factors and albumin, and influences bile acid and cholesterol metabolism. The liver moves in normal pregnancy to a more superior and posterior position, but there is little change in liver size in human pregnancy. The normal range of liver function tests alters in normal pregnancy [1], and several clinical signs that are considered to be pathological in non-pregnant individuals are not of concern in pregnancy. Examples include palmar erythema and the presence of spider naevi.

Hepatic disorders in pregnancy may result from pre-existing liver disease or they can be the result of pregnancy-specific disorders. Liver abnormalities as a result of hypertensive disorders are summarized in Table 1.

* Corresponding author. Women's Health Academic Centre, King's College London, 2nd Floor Hodgkin Building, Guy's Hospital Campus, London SE1 1UL, UK. Tel.: +44 (0) 207 848 6350.
E-mail address: Catherine.williamson@kcl.ac.uk (C. Williamson).

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Table 1
Abnormalities in liver function tests as a result of hypertensive disorders of pregnancy.

Distinguishing feature	Pre-eclampsia	HELLP syndrome*
Typical gestational week at onset	>20 weeks	36 (25–38)
Symptoms and signs	Headache Visual disturbance Abdominal/epigastric pain Nausea and vomiting Polyuria/polydipsia Oedema Raised blood pressure Brisk reflexes/clonus Proteinuria	
Liver function tests		
• ALT	↑	↑↑
• AST	↑	↑
• γGT	↑	↑
• Bilirubin	N	↑
• Bile acids	N	N
Other tests		
• Haemoglobin	N	↓
• Platelets	↓	↓↓
• Creatinine	↑	↑
• Urate	↑	↑

* The haemolysis, elevated liver enzymes and low platelets syndrome.
N = normal.

Pre-existing liver disease

Infectious liver disease

Hepatitis A

Hepatitis A is an acute viral hepatitis caused by a small non-enveloped RNA virus. The infection is typically acquired via faeco-oral transmission, usually through the ingestion of infected food. Infection with hepatitis A typically causes a self-limiting icteric illness, and it is not associated with chronic infection. It has an incubation period of 2–7 weeks. Acute presentation of hepatitis A infection in pregnancy is similar to that in non-pregnant women, with a mild prodromal illness followed by the onset of dark urine, pale stools jaundice and hepatomegaly. Transaminases are elevated by 10–100 times. Most symptoms and signs resolve within 3 weeks. Although hepatitis A infection is not a cause of major maternal or neonatal morbidity, it can rarely be transmitted from mother to child, and vaccination is therefore appropriate for women at a risk of infection. In utero transmission of hepatitis A infection in the first trimester is reported to cause fetal meconium peritonitis, and in the third trimester it may result in asymptomatic neonatal infection and/or self-limiting neonatal cholestasis [2–4]. Acute infection in the third trimester is associated with a risk of preterm labour [5]. Hepatitis A infection is not transmitted via breast milk, and women should be advised that they can breastfeed. Treatment is supportive.

Hepatitis B

Hepatitis B is a small double-stranded DNA virus, with eight known serotypes. In adults in low-prevalence areas, the major routes of transmission are via unprotected sex and intravenous drug use. However, the predominant route of transmission worldwide is from mother to child, and acquisition of the virus during the perinatal period is associated with the highest risk of chronic infection. It is estimated that between 30% and 50% of chronic hepatitis B virus (HBV) infections are acquired during the perinatal period. During pregnancy, hepatitis B may present as an acute or chronic infection. All women should be screened for the virus at booking and again in late pregnancy if at an ongoing high risk of infection. This is achieved by testing the surface antigen (HBsAg) status. If the HBsAg is negative but the woman is at a high risk of acquiring the infection during pregnancy, anti-HBsAg should also be