First Case Report of an Acute Hepatitis E Subgenotype 3c Infection During Pregnancy in Germany.


Abstract

Hepatitis E is usually a self-limiting disease and an important cause of acute hepatitis in endemic countries in Asia and Africa. However, the mortality rate for pregnant women infected with hepatitis E virus (HEV) in this area is about 25%. In Germany, sporadic cases of acute hepatitis E infections have been described and the number of autochthonous infections is increasing. Here we report an autochthonous HEV subgenotype 3c infection in a 27-year old pregnant woman. This is the first documented case of a hepatitis E infection during pregnancy in Germany. The patient presented in week 26 of gestation with acute hepatitis and elevated transaminases. During follow-up, she tested positive for anti-HEV antibodies. HEV viral load during the acute hepatitis was $2.3 \times 10^6$ copies/ml serum, however viremia declined and cleared rapidly. Sequence analysis revealed a HEV subgenotype 3c closely related to European isolates. The patient had not travelled outside Germany, had regular contact to animals, but the source of infection remains unclear. The newborn was delivered in week 40 of gestation in good health, HEV was not transmitted and liver enzymes were normal.

Conclusion: Hepatitis E should be considered in differential diagnosis in patients with acute hepatitis especially during pregnancy, even without travel history to countries with high endemicity.

Comment

A high rate of fulminant hepatitis among pregnant women, particularly in the last trimester, with up to 30% fatal cases was reported from endemic areas with genotype 1. In contrast, there is no indication that pregnancy worsens the prognosis of the infection for the genotype 3 infections prevalent in Europe. Another prospective study with 315 pregnant women in France also reports no IgG seroconversion and no detectable IgM antibodies during pregnancy and postpartum follow-up, despite relatively high anti-HEV IgG prevalence of 7.74% in this cohort (Benou et al. 2014).

HEV should no longer be associated with a travel history only. Autochthonous circulation of HEV has been confirmed in many European countries. The route of transmission can vary and requires further investigation. Serological HEV determination should be considered as important part of the differential diagnosis of pregnant women with symptoms of acute hepatitis.

Mikrogen is the only company providing all three platforms, ELISA, Line blot and PCR test, for the detection of HEV infection.