

## Prevalence of antenatal hepatitis B virus carriage in the west of Ireland.

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# Prevalence of Antenatal Hepatitis B Virus Carriage in the West of Ireland

Sir

Hepatitis B virus (HBV) is a DNA virus. Transmission occurs as a result of mucosal or percutaneous contact with blood or body fluids of an infected person. Acute infection may be associated with an acute and sometimes fatal hepatitis. In most patients the immune response achieves clearance of the virus, however, in a significant proportion the virus is not cleared and the patient progresses to chronic infection. Approximately 90% of infections occurring in the perinatal period or early childhood progress from acute to chronic HBV infection. Infection may be asymptomatic but is associated with a number of complications including hepatic cirrhosis and hepatocellular carcinoma. Hepatitis B virus (HBV) infection is a major cause of morbidity and mortality with an estimated 350 million people infected worldwide.

<sup>1</sup> Chronic  
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In Ireland, HBV infection is a notifiable disease and in 2008, 949 cases of HBV infection were notified through the computerised infectious disease reporting system (CIDR). Extensive contact between the infant and maternal blood and body fluids during delivery results in a high risk of transmission to infants born to infected women, however, passive (HBV Immunoglobulin) and active (Hepatitis B virus vaccine) given promptly after birth to infants born to HBV-infected women can prevent transmission in a high proportion of cases. Detection of infected women and the intervention to prevent mother-to-child transmission has a key role to play in the control of spread of HBV. Maternal infection can be detected by screening blood for HBV surface antigen (HBsAg). Antenatal screening for HBV infection is recommended in the 1999 National Immunisation Guidelines for Ireland. At present however, no clearly articulated or specifically resourced national programme of antenatal HBV screening exists. A study carried out by the Rotunda Hospital, Dublin revealed an overall Hepatitis B seroprevalence of 0.35% prevalence of HBV infection in antenatal women tested in the west of Ireland over a 5-year period.

<sup>3</sup> We reviewed the

The number of antenatal specimens tested for HBsAg in Galway University Hospital (GUH) between 01/04/2004-31/03/2009 was established using the Laboratory Information Systems. Data was recorded on age, co-infection, rubella status, HBV serological profile and whether previously diagnosed with HBV infection. Patients were categorized as likely to be Irish or another ethnic group based on family name. Testing for HBsAg was performed by Enzyme Immunoassay (EIA). The prevalence of antenatal HBV carriage was 0.21% (51 pregnancies out of 24,008 tested). In all cases patients were likely to be from another ethnic groups. The number of HBV-infected antenatal patients identified per year increased from 2004-2008 (5, 10, 8, 13 and 14 respectively). There was one case identified in the first quarter of 2009. Age range of HBV-infected patients was 16-37 years. HBV infection was not previously diagnosed in 59% (30/51). Five patients were HBV e-antigen positive indicating active viral replication and increased transmission risk. Co-infection with HIV/ T. pallidum was not identified. 96% of HBV-infected patients were immune to rubella.

Routine access to antenatal testing for HBsAg identified a mean of 6 previously undiagnosed patients per year for whom immediate post-natal infant prophylaxis was indicated. Informal contact with other clinical laboratories in Ireland indicates that although routine access to antenatal screening for HBV is generally available, in the absence of a national strategy for opt-out testing for HBsAg, performance of this test in most clinical laboratories is dependent on the obstetric services or General Practitioner specifically requesting the test. There is significant potential with this approach for testing for HBV (or other important agents) to go undetected. We suggest that there is a need for a structured uniform national programme of routine antenatal serological testing for HBV and other relevant organisms.

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