Childhood hepatitis

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Text

The term hepatitis implies hepatic inflammation and hepatic necrosis, which leads to characteristic constellation of clinical, biochemical and histological changes. Various forms of hepatitis are acute, subacute and chronic. Acute hepatitis can be infective (most common), toxic, genetically determined or cryptogenic in etiology. In this review we shall be focusing on the recent advances related to acute viral hepatitis (AVH). Viruses causing hepatitis are hepatitis A (HAV), hepatitis" B (HBV), hepatitis C (HCV), hepatitis delta (HDV), hepatitis E (HEV) and other viruses. Of the sporadic form of acute viral hepatitis in children, HAV is the commonest (32.6%), followed by HEV (22.2%), HBV (7.3%), HDV (1.1%, cytomegalovirus (0.4%) and unknown (19.5%)2 In our experience at a tertiary centre, HAV constituted 60% and hepatitis B (35%) of sporadic acute hepatitis in chi! dren2 Hepatitis A Hepatitis A virus mainly affects children in the age group of 1-14 years. In developing countries HAV infection is endemic with higher infection rate in early childhood. Thus is India 90% of children by the age of 10 years show evidence of having had hepatitis A infection. The predominant mode of infection is faeco-oral by person to person contact. Eighty percent of children remain asymptomatic. The chances of developing symptoms increase with increasing age. The infection whether symptomatic or asymptomatic results in lifelong immunity against HAV. Maternal antibodies in breast milk are thought to be protective, accounting for low incidence of HAV infection in breast fed infants. Hepatitis A usually resolves spontaneously but occasionally may result in complications during acute phase. Fulminant hepatic failure is uncommon. Oceal signally they may develop distractive phase leading to prolongation of jaundice. Chronic hepatitis and cirrhosis do not develop. Prevention of HAV infection, depends upon improving hygienic conditions and provision of clean chlorinated water; but now immunoprophy laxis of HAV infection has become an important mode of prevention. Till now only passive immunization with immune serum globulins was possible. Recently hepatitis A vaccine has become available, which is highly immunogenic, effective and safe. Both live attenuated and recombinant vaccines are available. The recommended primary course consists of two doses at 2-4 weeks apart; a booster dose given six months later. This vaccine schedule confers long term perfection2 The accumulated data from 60 clinical trials show that vaccine is well tolerated with seroconversion rate of 100%, protective efficiency of and uncommon and mild side effects

mainly 97%, local symptoms in 9% (sourness and swelling at the site of injection) and general symptoms in 12%. 3.5 Though human serum immunoglobulins are cheaper as compared to vaccine, antibody concentration produced by two doses of vaccine are about 50-100 times higher than achieved after single dose of immunoglobulins2 Immunoglobulins provide only transient protection2 Hepatitis A vaccine may be considered for universal use in children of endemic areas, as HAV infected children are important source of infection and can transmit the disease to adults. High cost of vaccine (Rs 700/ dose) would be the limiting factor for routine immunization in Indian children. Hepatitis B Hepatitis B infection is worldwide in distribution. In addition to acute hepatitis, this virus can cause chronic infection which leads to development of chronic hepatitis, cirrhosis and hepatocellular carcinoma (HCC). The prevalence of carrier state varies from 0.3 to 1.0% in North America and Western Europe and 5 to 20% in Africa, parts of Asia and Mediterranean countries. Data regarding magnitude of HBV infection in our country are variable. Several studies have reported hepatitis B surface antigen (HBsAg) prevalence rate of 3-5%. 6 Applying these figures to our country (population : 840 millions, 1991 census), it can be calculated that approximately 34 million HBV carriers exist in India which constitute nearly 10% of the entire HBV carrier pool in the world. The development of symptoms with acute infection are directly related to age. With acute infection, the symptoms develop in less than 5% of infants, 5-15% of children between ages of one and five years and 33-50% of older children7 The development of chronic infection after acute HBV infection is inversely related to age. The risk of chronic infection is highest (70-90%) for infants who acquire infection during perinatal period, lower (20-50%) for children younger than 5 years and lowest (5-10%) for older children and adults7 Infants who are chronically infected have 25% life time risk of cirrhosis in comparison to 15% seen in adults. ~ Apart from chronic hepatitis and cirrhosis, hepatocellular carcinoma is another important complication of chronic infection. In India 25-30% cases of viral hepatitis are due to HBV2 .9 Fulminant hepatic failure develops in 1% of cases. In infants and children perinatal exposure to maternal blood is the most efficient mode of HBV transmission. During perinatal period infants get exposed to maternal blood through placental tears, trauma related to birth and contact of conjuctiva and mucous membranes with blood and other fluids during labour and delivery. Infants born to mothers who are positive for hepatitis B e antigen (HBeAg) have risk as high as 70-90% of acquiring HBV infection during perinatal period2 ~ HBV can be transmitted to foetus during the gestational period also but this isnot a major route of infection. Among infants who do not acquire infection at birth, 40% of infants born to mothers who are HBeAg positive will become infected before the age of 5 years because of close contact with

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