Prevalence and clinical aspects of human bocavirus infection in children.

Abstract:

Human bocavirus (HBoV) was recently described as a new member of the Parvoviridae. In order to investigate the suggested association of HBoV with respiratory and gastric disease in infants and young children, sera of 357 paediatric patients hospitalized with infectious and non-infectious diseases were retrospectively analyzed for the presence of HBoV DNA and virus-specific antibodies using quantitative PCR and ELISA, respectively. HBoV seroprevalence was determined to range from 25% in infants younger than 1 year of age to 93% in children aged more than 3 years. Viral loads between 1 x 10(2) and 1.2 x 10(6) geq/mL were observed in 6.7% (20/297) of sera obtained preferentially from young children suffering from infectious diseases. HBoV genomes were furthermore detected in 5% (3/60) of sera collected from individuals with non-infectious illnesses. HBoV DNA was present most frequently in patients with respiratory disease (9.6%). Whereas only 5.2% of patients with upper respiratory tract disease were viraemic, HBoV DNA was found in 14.6% and 10.0% of patients with lower respiratory tract illness and pneumonia, respectively. Acute HBoV infections were also observed in 7.5% of patients with gastroenteritis and in one child with inflammatory bowel disease. None of 77 patients hospitalized for various other infectious diseases (e.g. rash, urinary tract infection, meningitis) displayed viraemia. In 60.9% and 47.8% of
DNA-positive children, HBoV-specific IgM and IgG was observed, respectively. The present prospective study provides comprehensive data on the clinical association of acute HBoV infection with respiratory illness and on the seroprevalence of virus-specific antibodies in children.