S14 – Human Parechovirus Infection in Hong Kong Neonates, Infants and Young Children

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Introduction and Project Objectives: The epidemiology of human parechovirus (HPeV) in Asia remains obscure. We elucidated the prevalence, seasonality, type distribution and clinical presentation of HPeV among children in Hong Kong.

Methods: A 24-month prospective study to detect HPeV in children ≤36 months hospitalized for acute viral illnesses.

Results: 2.3% of the 3911 children examined had HPeV infection, with most (87.5%) concentrated in September-January (autumn-winter). 81.3% were HPeV1 and 12.5% were HPeV4, while HPeV3 was rare (2.5%). HPeV was a probable cause of the disease in 47.7% (42/88), mostly self-limiting including acute gastroenteritis, upper respiratory tract infection and maculopapular rash. A neonate developed severe sepsis with HPeV3 as the only pathogen detected. A high proportion (60.0%) of children coinfected with HPeV and other respirstory virus(es) had acute bronchiolitis or pneumonia. Six children with HPeV coinfections developed convulsion / pallid attack. Most rash illnesses exhibited a generalized maculopapular pattern involving the trunk and limbs, and were more likely associated with HPeV4 compared to other syndrome groups (35.7% vs. 3.8%, P = 0.014).

Conclusions: In Hong Kong, HPeV exhibits a clear seasonality (autumn-winter) and were found in a small proportion (2.3%) of young children (≤36 months) admitted with features of acute viral illnesses. The clinical presentation ranged from mild gastroenteritis, upper respiratory tract infection and febrile rash to convulsion and severe sepsis. HPeV3, which is reported to be associated with more severe disease in neonates, is rare in Hong Kong. HPeV coinfection may be associated with convulsion and aggravate other respiratory tract infections.

Summary: Parechovirus infections in Hong Kong exhibited an autumn-winter seasonality. Half of the infections were probable causes of hospitalization including acute gastroenteritis, respiratory tract infection and rash. Coinfection was suspected to increase the chance of developing severe respiratory disease and convulsion.

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