

VIRAL AETIOLOGY IN CHILDREN LESS THAN 3 YEARS WITH ACUTE RESPIRATORY TRACT INFECTION

A. Muthulingam

Postgraduate Institute of Science

University of Peradeniya

Peradeniya

Sri Lanka

Acute respiratory tract infections (ARTIs) leading to bronchiolitis are a leading cause of death in children < 5 years of age in developing countries. Paediatric hospitalization due to respiratory syncytial virus (RSV) infections is very common in many parts of the world. In the United Kingdom only, RSV-attributed death rate was 8.4 per 100,000 and RSV-attributed death rates similar to this have been reported from countries like India and Hong Kong as well. However, viral aetiology for ARTI in Sri Lanka has not been studied thoroughly and systematically in different parts of Sri Lanka to determine the impact of these viruses on morbidity and mortality in children.

The objectives of the current study were to screen nasopharyngeal aspirate (NPA) from children clinically diagnosed with ARTI for viral aetiology using a mixture of antibodies to detect 7 viruses and characterize the positive NPAs using monoclonal antibodies for individual viruses (RSV, Influenza A, B, Parainfluenza 1, 2, 3 and adenoviruses). The NPAs in infants and children between the ages of 1 month to 2.5 years admitted to the paediatric ward, Kegalle Teaching Hospital (July- September 2011) with bronchiolitis suspected to be due to ARTI were tested for viral aetiology using direct immunofluorescence assay (DFA) for viral antigen detection.

Out of the 99 NPAs tested 32 (32%) were positive for respiratory virus antigen by DFA indicating one of the seven viruses tested present in those children with ARTI. When Imagen typing for individual viruses was performed, of the 32 NPAs typed, 29 (29%) gave positive for RSV (n=29), parainfluenza type 2 (n=2) and influenza A (n=1) viruses.

Although ARTI have been clinically diagnosed in children by paediatricians and general practitioners in Sri Lanka, the aetiology of these ARTI are yet to be identified. The current study identified three different respiratory viruses including RSV, parainfluenza 2 and influenza A in children with ARTI suggesting the prevalence of diverse viral aetiology in the study population. Large scale studies spread out throughout the year will help to understand the diversity of these viruses in children with ARTI in Sri Lanka.