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Detection of viral acute lower respiratory tract infection in hospitalized infants using real-time PCR

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Introduction: Acute lower respiratory tract infection in children causes significant morbidity in the developing countries. Documentation of virus infection using PCR and clinical characteristics of patients affected with viral pneumonia are reviewed in this study.

Methods: 51 children less than three years admitted to the Pediatric Hospital, Cairo University with viral pneumonia were included. All patients had undergone nasopharyngeal aspirate for PCR viral detection.

Results: A total of 51 cases were enrolled in the study, of which 7 cases were negative while 44 children were positive for viruses. The most common respiratory virus was Rhinovirus in 32 patients (72.2%), then parainfluenza virus (PIV) in 12 (27.3%), of which subtypes PIV1 were 2 (4.5%), PIV3 were 5 (11.4%) and PIV4 were 5 (11.4%) cases. The third common viruses were respiratory syncytial virus (RSV) in 9 (20.5%) cases of which 3 (6.8%) were RSVA and 6 (13.6%) were RSVB and adenovirus in 9 cases (20.5%). Boca virus was found in 8 (18.2%) patients, corona virus 2 (4.5%) patients, H1N1 2 (4.5%) patients, enterovirus 2 patients (4.5%) and human metapneumovirus in one case (2.3%). Influenza B and PIV2 were not detected. Co-infection was found in 28 (63.7%). Mortality occurred in 12 (23.5%). There was no significant relation between virus type or co-infection with disease severity.

Conclusions: RV was the most commonly detected virus in children less than 3 years admitted with acute lower respiratory tract infections. Co-infection was present in the majority of our patients; however it was not related significantly to parameters of disease severity.

Biography

Dina Kamal Mostafa is an Assistant Professor of Pediatric Pulmonology, Cairo University working as a Pediatric consultant, Astoon Hospital, Al Khobar, KSA. She has graduated in 1998 from Department of Medicine, Cairo University. She continued her Post-graduate studies and received Master degree from Cairo University in 2003 and joined the academic work as Assistant Lecturer, later as a lecturer in pediatrics at Cairo University. She continued her academic work at Cairo University and got MD Degree of Pediatric Pulmonology in October 2007. In 2012 she was promoted as an Assistant Professor in the department of pediatric pulmonology, Cairo University and up to now. She is interested in studying and teaching pulmonary function in infants and did a lot of studies in the field of pulmonary function in infants by using infant plethysmography and published a lot of research papers in the past few years.

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