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Clinical and laboratory investigations of *Human metapneumovirus* (hMPV) in infants and young children with pneumonia and bronchiolitis in Saudi Arabia

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Human metapneumovirus (hMPV) is classified in the *metapneumovirus* genus, *Pneumovirinae* subfamily of the *Paramyxoviridae* family. It was isolated for the first time in 2001 in the Netherlands and then reported in many parts of the world with seasonal distribution. It may be the second most common cause (after the *respiratory syncytial virus*, RSV) of pediatric lower respiratory illness. However, hMPV can also cause upper respiratory tract infections across all age groups. Compared with RSV, infection with hMPV occurs in slightly older children and to produce less severe disease. Co-infection with both viruses can also occur and associated with worse disease. hMPV were known to account for approximately 10% of respiratory tract infections worldwide. The transmission occurs by contact with contaminated secretions, via droplet, aerosol, or fomite vectors. Infection with hMPV results in symptoms of bronchiolitis and pneumonia. Laboratory testing for identification of hMPV include: PCR, ELISA and immunofluorescence. In the present study, the role of hMPV in LRT infections in children in Asser area (Southwest Saudi Arabia) was investigated for the first time. An amount of 98 samples of respiratory secretions in swabs were collected from patients who attended the pediatric clinics with respiratory problems at Asser Central Hospital. Samples were collected from patients in both genders, different ages and with different geographical and social backgrounds. Direct Fluorescent Antibody (DFA) techniques using the commercial kit was employed to determine the presence of the virus antigens in these specimens. The technique was made exactly as described by the direct immunofluorescence Kit manufacturers with some modifications. 9 samples out of 98 (9.18%) collected were found positive to the virus. Positive cases include patients from both genders and from 6 out of 7 geographical distributions tested. In conclusion, hMPV was reported for the first time to be incriminated in the causation of lower respiratory tract infections in the study area.

Biography

Abdelwahid Saeed Ali (PhD) is currently serving as a professor of virology and medical biotechnology in the College of Medicine, King Khalid University (KKU) in Saudi Arabia. He obtained his PhD in virology from Putra University in Malaysia in 2000 and had a post-doctoral fellowship in medical biotechnology at Duke University Medical Center (DUMC), in Duke University in North Carolina, USA (2005- 2007). At Duke he did some research work dealing with the molecular factors regulating the mitochondrial biogenesis during sepsis in mammalian cells. As a result of that of research work, he published his research data in most reputable journals in USA. He passed all his academic career started as a teaching assistant moving through lecturer, assistant professor, associate professor till he become a full professor in 2010. Through that academic marsh, he was actively involved in teaching, research leadership, graduate students supervision, institution and community service.

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