Meetings International SciTechnol

International Conference on
CANCER THERAPY &
International Conference on
VACCINES & VACCINATION

July 23-24, 2018 | Osaka, Japan

Abdelwahid S Ali, J Clin Exp Oncol 2018, Volume: 7
DOI: 10.4172/2324-9110-C3-014

Direct florescent antibody test for rapid detection of human *Metapneumovirus* in patients with pneumonia and bronchiolitis

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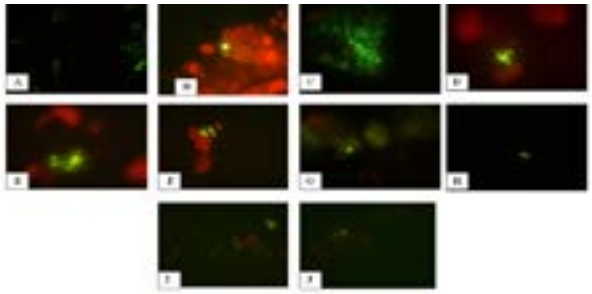
Human metapneumovirus (hMPV) is classified in the metapnuemovirus genus, Pneumovirinae subfamily of the Paramyxoviridae family. It was isolated for the first time in 2001 in the Netherlands and then reported in many parts of the world with seasonal distribution. It may be the second most common cause (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 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, fomite vectors. Infection with hMPV results in symptoms of bronchiolitis and pneumonia. Laboratory testing for hMPV include PCR, ELISA and immunofluorescence. In the present study, direct fluorescent Antibody (DFA) was employed to determine the presence of the virus antigens in pediatric LRT infections in Aseer area (Southwest Saudi Arabia) for the first time. An amount of 91 samples of nasopharyngeal secretions were collected from patients who attended the pediatric clinics with respiratory infections. Samples were collected from patients in both genders, different ages and with different geographical and social backgrounds. Nine samples out of 91 (9.9 %) collected were found positive to the virus. Positive cases includes patients from both genders and from 6 out of 7 geographical distributions tested. The initial clinical presentation included fever, cough and shortness of breath (SOB). Bronchopneumonia (BP) and aspiration pneumonia were the most common diagnosis on admission. Some of these cases were observed with an underlying chronic conditions like chronic heart disease (CHD) and asthma. In conclusion, DFA is a reliable rapid test for hMPV detection for the first time.



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 form Putra University in Malaysia in 2000 and had a post-doctoral fellowship in medical biotechnology at Duke University, 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 research work, he published his research data in most reputable journals in USA and other countries. 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 from University of Khartoum (Sudan). Through that academic marsh, he was actively involved in teaching, research leadership, graduate students supervision, institution and community service.

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