

POSTER PRESENTATION

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Molecular characterization of potential healthcare associated respiratory syncytial virus in three referral hospitals in Kenya, 2009-2011

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Introduction

Respiratory syncytial virus (RSV) is a major cause of community-acquired severe respiratory illness in infants, immunocompromised individuals and the elderly. Limited information exists on healthcare associated RSV infections in developing countries.

Objectives

To describe hospital-acquired RSV infections in three Kenyan referral hospitals

Methods

Ongoing surveillance for healthcare associated infections is conducted at three referral hospitals in Nairobi: Kenyatta National Hospital (KNH), Jaramogi Oginga Odinga Teaching and Referral Hospital (JOOTRH) and Mbagathi District Hospital (MDH). We collected nasopharyngeal and oropharyngeal samples from patients with new-onset fever ($\geq 38^{\circ}\text{C}$) and either cough or sore throat, after being afebrile for at least three days in the wards. Specimen were tested for RSV using real time polymerase chain reaction (RT-PCR) and those positive with a cycle threshold value of 30 and below were further grouped as RSV A or B using the same method. The ectodomain of the attachment G glycoprotein was sequenced and phylogenetically analyzed.

Results

Among 255 cases tested from September, 2009 to September, 2011, 37 (14.5%) were positive for RSV, including 13 (35%) subgroup A, 6 (16%) B, 1 (3%) mixed AB and 17 (46%) could not be determined. Seventeen

samples were successfully sequenced out of the twenty samples on which this was attempted. Majority of our RSV A isolates belonged to NA1 genotype prototype strain and all RSV B sequences clustered with the BAIV genotype. Three RSV A and 2 RSV B sequences from patients on the same ward at KNH were 100% identical in the G ectodomain suggesting potential common source. One RSV A positive specimen from MDH and one from JOOTRH showed 100% sequence identity.

Conclusion

Presence of identical sequences indicates potential patient to patient transmission of RSV within the hospitals. Effective and feasible infection control strategies should be enhanced in the Kenyan public hospitals.

Disclosure of interest

None declared.

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