



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

Type: Poster Presentation

Final Abstract Number: 43.244
 Session: Poster Session III
 Date: Saturday, March 5, 2016
 Time: 12:45-14:15
 Room: Hall 3 (Posters & Exhibition)

Viral burden in acute respiratory tract infections in hospitalized children in the wet and dry zones of Sri Lanka



J.A.A.S. Jayaweera¹, F. Noordeen^{2,*}, A. Morel³, N. Pitchai⁴, S. Kothalawala⁵, A.M.S.B. Abeykoon⁵, J.S.M. Peiris⁶

¹ Faculty of Medicine and Allied Sciences Rajarata University Saliyapura Sri Lanka, Anuradhapura, Sri Lanka

² University of Peradeniya, Kandy, Sri Lanka

³ Teaching Hospital Gampola Sri Lanka, Kandy, Sri Lanka

⁴ Faculty of Medicine University of Peradeniya, Kandy, Sri Lanka

⁵ Faculty of Medicine University of Peradeniya, Peradeniya, Sri Lanka

⁶ The University Of Hong Kong, Hong Kong, Sri Lanka

Background: Acute respiratory tract infection (ARTI) is one of the most common acute illnesses of childhood. Mostly encountered viral etiology of ARTI in children under 5 years are respiratory syncytial virus (RSV), parainfluenza types 1, 2 and 3 (PIV), adenovirus (AV), influenza virus types A and B, coronavirus (CoV), human Bocavirus (hBoV) and human metapneumovirus (hMPV). This study was conducted to identify the viral burden in hospitalized children with ARTIs to map the occurrence of these viruses with local seasonality.

Methods & Materials: Nasopharyngeal aspirates (NPA) of inward patients (1 month - 5 years) with ARTI were collected in Teaching Hospital, Gampola (THG) and Teaching Hospital, Anuradhapura (THA) from March 2013 - August 2014. Following screening of NPA with indirect immunofluorescence assay (IFA) specific viral aetiology was detected by a direct immunofluorescence assay (DFA). IFA negative hundred NPA were tested for hMPV, hBoV and CoV. Viral seasonality and the overall viral burden were evaluated and the descriptive statistics was expressed using measures of central tendency.

Results: Out of 443 and 418 NPAs tested, RSV was detected 94 children (59.96%) in THG and 85 children (51.51%) in THA. In both cohorts RSV was detected throughout the year. In the dry zone, the peak viral incidence was noted from May-July in 2013 and 2014. In the wet zone two peaks were observed: December-January in 2013 (major peak) and in April in 2013 and 2014 (minor peak). Period prevalence of RSV ARTI in THG was 4.7% and in THA was 4.25%. The RSV incidence at THG and THA was 31.3 and 28 /100000 person years. The hMPV distribution was similar to that of RSV.

Conclusion: Knowledge of seasonality of the occurrence of viral aetiologies in children with ARTI is important to implement early preventive measures, such as vaccination for influenza A, use of respiratory precautions and health education. Identifying the viral aetiology by proper virological diagnosis will reduce the empirical use of antibiotics and thus will contribute to reduce the cost and to prevent the emergence of anti-microbial resistance.

<http://dx.doi.org/10.1016/j.ijid.2016.02.980>

Type: Poster Presentation

Final Abstract Number: 43.245
 Session: Poster Session III
 Date: Saturday, March 5, 2016
 Time: 12:45-14:15
 Room: Hall 3 (Posters & Exhibition)

Cross-species transmission of mycobacterium tuberculosis in mahouts and captive elephants: Implications to health policy



D. Abraham^{1,*}, V. Kummannoor Parameswaran Pillai²

¹ Theekuni Veterinary Dispensary, Thrissur, Kerala, India

² Government Medical College Hospital, Kottayam, Kerala, India, Kottayam, India

Background: There are nearly a thousand captive Asian elephants and not less than 3,000 mahouts in southern India. In the hands-on and open systems of captive elephant management, diseased mahouts and captive elephants could present the risk of cross-species tuberculosis transmission. With the help of evidence based results, we intend to formulate specific policy guidelines, which can suggest locally relevant preventive and control measures to help mitigate the risk of cross-species infection.

Methods & Materials: Over a period of three years, one time screening of nearly 800 elephants and their mahouts was achieved. Tuberculosis screening of mahouts was done by clinical examination, chest X-ray evaluation, sputum culture and tuberculin skin testing, as required. Screening of elephants was done using the USDA licensed serological test, DPP Vet Assay® (Chembio Diagnostics Inc., Medford, New York) and trunk wash culture, as required. Detailed contact investigation of traceable human and animal contacts of the identified diseased mahouts and elephants were done. We examined three different contexts of tuberculosis transmission among captive elephants and mahouts. First scenario is the risk of infection from an infected mahout to an elephant. Second is the risk of infection from an infected elephant to a mahout and third is the risk of infection from an infected elephant to another elephant.

Results: There is evidence to suggest cross-species tuberculosis transmission. However, under the tropical climatic conditions in southern India, the risk of infection to a captive elephant from a diseased mahout seems to far outweigh the risks of infection to a mahout or another elephant, from a diseased elephant. There are political as well as ethical consequences to the outcomes in each of the three scenarios and they are both varied and complex.

Conclusion: Mahouts and captive elephants in southern India are highly migrant and locating the subjects for contact tracing and follow-up testing is difficult. Hence, systematic and regular tuberculosis screening of mahouts and captive elephants is a challenge. Formulating as well as implementing policy guidelines for prevention and control of cross-species tuberculosis transmission, in the existing cultural and religious contexts of captive elephant managements in southern India, appears to be an even bigger challenge.

<http://dx.doi.org/10.1016/j.ijid.2016.02.981>