

**Type: Poster Presentation**

Final Abstract Number: 43.232  
 Session: Poster Session III  
 Date: Saturday, March 5, 2016  
 Time: 12:45-14:15  
 Room: Hall 3 (Posters & Exhibition)

### Co-infections with multiple dengue virus serotypes in patients from 3 different Provinces of Sri Lanka, a dengue hyper endemic country



T. Senaratne<sup>1,\*</sup>, P.N. Sirisena<sup>2</sup>, K. Muruganathan<sup>3</sup>, F. Noordeen<sup>2</sup>, J. Carr<sup>4</sup>

<sup>1</sup> University of Peradeniya, Peradeniya, Sri Lanka

<sup>2</sup> University of Peradeniya, Kandy, Sri Lanka

<sup>3</sup> University of Jaffna, Jaffna, Sri Lanka

<sup>4</sup> School of Medicine, Flinders University, Adelaide, Australia

**Background:** The circulation of multiple dengue viral (DENV) serotypes in a same locale has caused people to get infected with mixed DENV serotypes in subsequent or simultaneous infections. The objective was to study the clinical presentations together with reverse transcriptase PCR (RT-PCR) and serology of co-infections to identify pattern of disease severity among co-infections in patients from 3 different provinces of Sri Lanka.

**Methods & Materials:** Clinically diagnosed dengue fever (DF) / dengue haemorrhagic fever (DHF) patients from Teaching Hospitals, Jaffna and Kandy and General Hospitals, Gampaha and Negambo with fever days less than 5 were included. Clinical and hematological data were assessed. DENV capsid gene detection was performed by RT-PCR followed by DENV sero-typing. DENV IgM/IgG detection were performed using ELISA.

**Results:** Out of the 1249 RT-PCR performed on patients during 2009-2012, 329 were RT-PCR positive and of which 34/329 (10.33%) patients had DENV co-infections with two or more serotypes. In these three Provinces all 4 DENV serotypes were found to be co-circulating during 2009-2012 and DENV-1 was the predominant serotype circulated in all 3 provinces. Highest number of co-infection (17/34) was DENV-1 with DENV-2. Of 34 co-infected patients, 24 were diagnosed as DF and the rest were DHF (n=10). There were 16 primary and 18 secondary DENV infections. Out of the primary DENV infections 12/16 were DF and the rest 4/16 were DHF. In the secondary DENV infections 22/28 were DF and 6/28 were DHF. No significant difference was noted between the total white blood cell count and platelet counts in monotypic and co-infections with multiple DENV serotypes.

**Conclusion:** In this population DENV-1 was the dominant DENV serotype followed by DENV-2. Presence of DENV co-infections in all 3 provinces indicates the hyperendemicity of DENV throughout the country. The absence of significant association of disease severity between the monotypic and co-infections with multiple DENV serotypes point out the progression of the disease into severe forms driven by factors other than viral factors. The presence of DENV co-infections may also lead to recombination of genetic components contributing to the emergence of new DENV strains that might be more virulent and aggressive in causing severe dengue.

<http://dx.doi.org/10.1016/j.ijid.2016.02.968>

**Type: Poster Presentation**

Final Abstract Number: 43.233  
 Session: Poster Session III  
 Date: Saturday, March 5, 2016  
 Time: 12:45-14:15  
 Room: Hall 3 (Posters & Exhibition)

### Upsurge in vaccine preventable hepatitis A virus infection in adult patients from a tertiary care hospital of North India



A.K. Sharma<sup>1,\*</sup>, U. Dutta<sup>2</sup>, S.K. Sinha<sup>2</sup>, R. Kochhar<sup>2</sup>

<sup>1</sup> PGIMER, Chandigarh, India, Chandigarh, India

<sup>2</sup> PGIMER, Chandigarh, Chandigarh, India

**Background:** Prevalence of acute viral hepatitis A among adult in developing country is low due to pre exposure of Hepatitis A virus (HAV) during childhood and adolescence. An increase in acute viral hepatitis A infection among admitted adult patients is being observed in this centre. Hence, study done to know the prevalence of Hepatitis A virus (HAV) and Hepatitis E virus (HEV) in adult patients of acute hepatitis admitted in Gastroenterology Department, Nehru Hospital, PGIMER, Chandigarh.

**Methods & Materials:** Two hundred eighty five adult patients (206 Males, 79 Females) of acute hepatitis, alcoholic liver disease with acute exacerbations and chronic liver disease with decompensation were included in the study for suspected viral aetiology (Study Period: October 2012 to September 2015). Patient's detail record included clinical features, routine diagnostic investigations and abdominal ultra-sonography. Three ml. of blood was collected from each patient and serum stored at -20°C. All samples were tested uniformly for Anti HAV IgM, Anti HEV IgM, HBsAg and Anti HCV by ELISA

**Results:** Overall 89 adult patients (31.22%, 67 Males, 22 Females, Mean age: 41.31 yrs. + 14.74) out of 285 patients of suspected viral hepatitis were reactive for Anti HAV IgM. 4 patients (1.4%, all male) were reactive only for anti HEV IgM. 5 patients (1.75%, 4 male, 1 female) were HBsAg reactive while 4 patients (1.4%, 3 male, 1 female) were anti HCV reactive. Dual viral infections were found in 7 patients (2.45%, 6 male, 1 female) which were reactive for Anti HAV IgM + HBsAg, 8 patients (2.8%, 6 male, 2 female) were reactive for Anti HAV IgM + Anti HCV and 01 male patient was reactive for Anti HAV IgM + Anti HEV IgM.

**Conclusion:** 31.22% adult patients of suspected viral hepatitis had acute viral hepatitis A infection needing hospitalization. 2.8% of adult patients had dual HAV and HCV infection while 2.45% adults had dual HAV and HBV infection. Prophylactic vaccination against HAV infection is needed for adult patients including healthy persons from this region after appropriate screening for HAV immunity.

<http://dx.doi.org/10.1016/j.ijid.2016.02.969>