

**Type: Poster Presentation**

Final Abstract Number: 57.028

Session: Virology and Viral Infections (Non-HIV) I

Date: Friday, April 4, 2014

Time: 12:45-14:15

Room: Ballroom

Type: Poster Presentation

**Liver injury in patients of dengue fever: Is alcoholism predictor of severity?**A. Bhalla<sup>1</sup>, M. Singhal<sup>1</sup>, V. Suri<sup>1</sup>, V. Singh<sup>1</sup>, S. Varma<sup>2</sup><sup>1</sup> PGIMER, Chandigarh, India<sup>2</sup> PostGraduate Institute of Medical Education and Research, Chandigarh, India

**Background:** Dengue virus is a mosquito-borne human pathogen that exclusively causes acute infection. Infection may result in a spectrum of clinical manifestations ranging from asymptomatic infection to life-threatening complications typified by vascular leakage. Atypical manifestations including hepatitis have been described. In this study we tried to look for the hepatic involvement in patients of Dengue fever with warning signs.

**Methods & Materials:** Confirmed (NS1/ IgM positive) adult dengue patients (age > 12 years) with warning signs (abdominal pain, persistent vomiting, mucosal bleed, lethargy, restlessness, hepatomegaly, clinical fluid accumulation and increase in haematocrit with worsening thrombocytopenia) visiting emergency department of a tertiary care hospital in North India, were analysed for degree of thrombocytopenia, derangement in liver function tests and presence of significant capillary leak. Patients with established chronic liver disease, hepatitis B or hepatitis C infection, established DHF/DSS were excluded from the study.

**Results:** Amongst 88 patients included in the study, most prominent liver involvement was asymptomatic transaminitis with AST more than ALT.

Correlation was found between the degree of transaminitis and thrombocytopenia, only 10% of patients with normal AST had platelet counts of < 10000, whereas 28.2% of patients with transaminitis had severe thrombocytopenia, but it didn't reach significance levels ( $p = 0.064$ ; chi-square test). Degree of transaminitis correlated well with history of significant alcohol consumption (at least >40 g/day for >1 year) with  $p$ -value of 0.012.

34.7% patients with evidence of capillary leak were found to have severe liver involvement as compared to 17.9% of patients without capillary leak. (AST more than 10 times the upper limit of normal ( $p$ -value = 0.054).

**Conclusion:** Liver involvement is common in dengue patients with warning sign and correlate with degree of thrombocytopenia and capillary leak. Alcohol consumption may be an independent predictor for severity of dengue related hepatic damage.

<http://dx.doi.org/10.1016/j.ijid.2014.03.1089>**Type: Poster Presentation**

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**Clinical profile of dengue fever in a tertiary care centre in North Western India**

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**Background:** Dengue fever presents with myriad of clinical findings. The severity ranges from mild fever to life threatening haemorrhage and shock. Present study was undertaken with an objective of describing and defining various clinical presentations as noted in our cohort of dengue patients.

**Methods & Materials:** An observational study of 299 adult patients with serologically confirmed dengue (NS1 or IgM positive), attending a tertiary care centre in North India from 2011-12 was undertaken. Clinical data including detailed history and physical examination was recorded. Patients were classified as Dengue fever, Dengue fever with warning signs, Dengue haemorrhagic fever or Dengue Shock Syndrome using standard WHO definition. Baseline parameters like complete blood count and liver function tests were recorded. Parameters were analysed using measures of central tendency. Unpaired Student's  $t$ -test was used to compare AST and ALT levels.

**Results:** Of the 299 patients, 76.6% were males. The mean duration from onset to presentation was 3.5 days (range 4 to 7 days). 64 patients (20.5%) were classified as dengue fever, 133 (44.5%) as dengue with warning signs and 102 (34%) as DHF/ DSS. Amongst patients with warning signs, 107 had abdominal pain, 158 had significant capillary leak and 93 had hepatomegaly. Persistent vomiting, mucosal bleed and altered sensorium were present in 72, 61 and 4 patients respectively.

Mean platelet count at presentation was  $22.81 \times 10^3/\text{mm}^3$ . 53% didn't have any bleeding at presentation, 13% had cutaneous bleed, 17% had mild to moderate mucosal bleed. Only 17% had severe bleed requiring transfusions. Baseline mean bilirubin was 0.94 mg/dl (range 0.2 to 13.8 mg/dl). Mean AST was 287.53 IU/l and mean ALT was 200.23 IU/l, with AST 1.4 times that of ALT ( $p$ -value < 0.001, student's  $t$ -test). All the patients were managed conservatively with fluids and platelet transfusion was reserved for patients with active bleed or prophylactically at a count of < 10,000 /mm<sup>3</sup>. Mortality was 0.66%.

**Conclusion:** Although 80% of our cohort of dengue patients had severe disease yet the mortality was less than 1%. conservative management strategy with rational platelet transfusion is effective in managing dengue patients.

<http://dx.doi.org/10.1016/j.ijid.2014.03.1090>