Seasonal Outbreak of Dengue infection in Northern India- A Clinical Perspective and Determinants of Prolonged Hospital Stay.

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Introduction

Dengue is a growing health problem all over the world. The disease is widespread in the tropics, influenced by rainfall, temperature and unplanned urbanization. According to World Health Organization (WHO), 40% of the world’s population live in areas at risk of dengue transmission. India reports frequent outbreaks of dengue fever every year. Dengue fever is now endemic with seasonal outbreaks following the monsoons. Scarcity of hospital beds during these outbreaks can be fatal to some. In this study we attempt to look into the clinical features of dengue fever in children and predictors of length-of-hospital-stay(LOS).

Dengue cases and deaths in India

Methods

The study was a hospital-based descriptive study with prospective data collection. The study was conducted in HIMSR and HAHC hospital, a tertiary-level teaching hospital located in southern part of Delhi, India. All children aged 3 months-18 years admitted in pediatric ward with suspected and probable dengue as per WHO guidelines (2009) were included in the study. The study period was from September to December, 2017. Patients were then classified into dengue fever without warning signs (DF), dengue fever with warning signs (DWS) and severe dengue (SD) as per WHO Classification.

Results

Of the total of 100 children admitted as suspected dengue, 8 patients were excluded. All excluded were diagnosed with other diseases. The final study group included 92 patients. Of the 92 cases, 78 were serologically (NS1/IgM) confirmed and 14 by the clinical criteria. There were 59 males and 33 females. Most of the patients were between <5 years (42%), 34% were between 6-10 years and 24% were above 11 years of age. The disease incidence amongst both sexes in the three age groups viz. <5, 5-10 and >10 years showed a male preponderance.

The patient's mean age was 7 ± 4.2 years. The mean duration of symptoms was 5 days. Patients remained hospitalized for an average duration of 5 days. 53% of patients remained admitted for more than 5 days. The mean time to admission to hospital after onset of fever was 4 days. 72 % of patients presented to hospital within 5 days of fever. 61% of cases were classified as dengue with warning signs (DWS), 39% dengue without warning signs (D) while only 8% had severe dengue. 99% of patients documented fever. One patient (1%) without fever was febrile 2 days prior to admission. Fever>102° Fahrenheit was seen in 62% of patients. 26% patients presented with body ache while 19% patients presented with rash. The predominant symptom was abdominal pain (56)% followed by vomiting (48%) and lethargy (48%). Prolonged duration of hospital stay was significantly related with high grade fever and lethargy (p<0.05).

Conclusion

Increased number of patients of dengue fever with warning signs were hospitalised. Common clinical features at admission were abdominal pain , vomiting and lethargy. High grade fever and lethargy at the time of admission is significantly associated with prolonged LOS. Identifying the risk factors for prolonged LOS can help allocate resources during seasonal outbreaks.