To Study the Complications in Dengue like Illnesses in Children

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Abstract:

Background: Dengue has a wide spectrum of clinical presentations, often with unpredictable clinical evolution and outcome. To study the complication of dengue like illness in children

Methods: The hospital-based study was conducted on patients presenting to paediatric hospital, who fulfilled inclusion and exclusion criteria.

Results: According to complications, in dengue positive cases, bleeding was the most common complication seen in 51.00% cases while shock, myocarditis, and convulsion were present in 34.00%, 3.00% and 1.00% of cases respectively.

Conclusion: It concluded that dengue hemorrhagic shock was most common complication.

Keywords: Dengue Like Illness, Complication, Shock.

Introduction

Dengue has a wide spectrum of clinical presentations, often with unpredictable clinical evolution and outcome [1,2]. While most patients recover following a self-limiting no severe clinical course, small proportion progress to severe disease. Early recognition of dengue is challenging because the initial symptoms are often non-specific. Viremia may be below detectable levels and serological tests confirm dengue late in the course of illness [3]. The key to a good clinical outcome is understanding and being alert to the clinical problems that arise during the different phases of the disease, leading to a rational approach in case management. [1]

For severe disease (severe dengue according to the new classification or DHF/DSS according to the older classification) the case fatality rate can be as high 15% but can be decreased to 1% by early diagnosis and prompt treatment [2].

For a disease that is complex in its manifestations, management is relatively simple, inexpensive and very effective in saving lives, so long as correct and timely interventions are instituted. Hence it is very important to be able to predict which patients are more likely to land up in complications. Such early prediction of adverse outcome and early detection of danger signs can help in reducing mortality and morbidity. Predictors will also help in monitoring the therapy and the course of illness in dengue-like illnesses. [3]

Since there is a paucity of literature on this, and there exist many gaps in the current understanding of such predictive factors, this study is being planned to assess history, examination, and investigation based predictive factors for complications of dengue-like illnesses.

Material and Methods

Study Design: Hospital-based cross-sectional study.

Inclusion Criteria

All the patients admitted to Paediatric ward with-

1. Age 3 months to 14 years.
2. A history of fever as given by the patient or parents or a documented fever > 38-degree Celsius in the first 24 hours after admission.
3. Thrombocytopenia of < 100,000 /cubic mm as documented in the automated counter within 24 hours of admission.
4. Informed consent obtained from the guardians or relatives.

Exclusion Criteria

1. Patients with a proven bacterial infection as the cause for thrombocytopenia and fever.
2. Patients with a pyogenic focus of infection.
3. Discharge against medical advice or referral to higher center before ascertaining the final outcome.

The study was commenced after obtaining clearance from the institutional ethical committee. Written consent was taken from the parents and those who were not willing excluded from the study. Patients presenting to paediatric hospital, who fulfilled inclusion and exclusion criteria were enrolled for the study. A comprehensive history taking, physical examination, and lab investigations were carried out and data were collected in pre-designed proforma.

Observations

Table 1: Distribution of Cases According to Age Group (years)

Variable	Dengue Positive(n=100)
Age	10.39±2.51
Male: Female	64: 36

Mean age was 10.16±3.26 year in dengue negative cases and 10.39±2.51 year in dengue positive cases.

Table 2: **Distribution of Cases According to Complication**

Complication	No of cases	Percentage
Bleeding	51	51.00
Myocarditis	3	3.00
Shock	34	34.00
Convulsion	1	1.00
No Complication	11	11.00
Total	100	100.00

According to complications, in dengue positive cases, bleeding was the most common complication seen in 51.00% cases while shock, myocarditis, and convulsion were present in 34.00%, 3.00% and 1.00% of cases respectively.

Discussion

Dengue is a major international health concern that is prevalent in tropical and sub-tropical countries. Since the first confirmed case of dengue in India, during the 1940s, intermittent reports from Delhi, Ludhiana, Mangalore, Vellore and from other states have been published. The diagnosis is by clinical profile but they can present with varied manifestation [5-6].

There is a steady increase in the outbreak of dengue fever over the years and so among children. This is due to the rapid urbanization with unplanned construction activities and poor sanitation facilities contributing fertile breeding grounds for mosquitoes. Due to an increase in the awareness among health care professionals following the initial epidemic and the availability of diagnostic tests have contributed to the increased diagnosis [7].

An outbreak of dengue fever during pre-monsoon and monsoon season reported due to stagnation of water after a bout of rainfall which facilitate vector breeding. This highlight the preventive measures against dengue fever should be taken during water stagnation periods after the initial bouts of rainfall and at the end of monsoon.

In our study mean age was 10.16±3.26 year in dengue negative cases and 10.39±2.51 year in dengue positive cases. This may be due to out-door activities of these children, where chances of getting bitten by mosquitoes are more. Similar finding was observed in other studies [8-10].

Boys were slightly more affected then girls were also observed by Selvan et al10 and Sahana et al [9] and similar pattern was seen in the retrospective analysis of the 2006 North Indian Dengue outbreak [14]. This may be due to out-door activities of these children, where chances of getting bitten by mosquitoes are more.

According to complications, according to complications, in dengue positive cases, bleeding was the most common complication seen in 51.00% cases while shock, myocarditis, and convulsion were present in 34.00%, 3.00% and 1.00% of cases respectively.

Raj et al [11] observed that shock was the most common and difficult to treat complication despite appropriate fluid management in accordance with WHO regimen. 20(10.2%) children had shock, of which 7 were refractory to fluid therapy and blood products (whole blood, packed cell volume, FFP) given as indicated.

Conclusion

It concluded that dengue hemorrhagic shock was most common complication.

References

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