CLINICAL AND HEMATOLOGICAL PROFILE OF PATIENTS WITH DENGUE FEVER

Farooq Ahmed¹, Zamin Hussain², Zafar Ali¹

¹Department of Medicine, Postgraduate Medical Institute, Lady Reading Hospital, Peshawar - Pakistan
²Department of Gastroenterology, Postgraduate Medical Institute, Lady Reading Hospital, Peshawar - Pakistan

ABSTRACT

Objective: To determine the clinical and hematological parameters in patients with Dengue fever

Materials and Methods: This descriptive study was conducted in the Dengue isolation unit of Lady Reading Hospital, Peshawar. All 205 patients admitted from January 2011 to December 2013 with confirmed Dengue fever of either gender and all ages were enrolled in the study. Patients who were treated as Dengue fever on suspicion basis or mixed infections were excluded from the study. Data included patient gender, age, duration of febrile illness, skin rash, history of bleeding (from any site), length of hospital stay, Hemoglobin level, hematocrit, total leukocyte count, platelets count, presence of Malarial parasites, Dengue IgM / IgG serology (by Elisa), and NS1 antigen detection (in some cases). The relevant data parameters were analyzed using STAT A software version 2.0.

Results: The number of males was 31.29 ± 13.65 years, while females were 12 (5.85%). Ages of patients were in the range of 10-65 years. Mean age was 31.29 ± 13.65 years. The average duration of symptoms of these patients was 4-5 days, and hospital stay was 2.5 days. The history of typical rash and purpura was seen in 56 (28%) patients. Twenty-eight patients presented with history of some bleeding episode (13.9%). Dengue shock syndrome was seen in 2 patients. Dengue IgM antibodies were positive in all patients while IgG was positive in 34 cases (16.6%). NS1 antigen was done in 76 patients and was positive in 62 patients (81.6%). The Total Leukocyte count ranged from 1600 to 9000 /mm³, and mean TLC was 4283 ± 1919 /mm3. The Platelets count ranged from 15000 to 271000, with mean of 69290 /mm³ ± 50820.5. The Hematocrit ranged from 33-49.1 % with a mean of 42% ± 4.1.

Conclusion: This study highlights the clinical and laboratory features of Dengue fever and is intended to share these with the primary care clinicians to help them in managing such cases.

Key Words: Dengue, fever, hemorrhage, shock, syndrome.
antibodies (by ELISA). Other supportive evidences were typical clinical features, leucopenia, and thrombocytopenia, with or without raised hematocrit depending upon the severity of illness. The recently introduced NS1 antigen test was done in patients who were admitted in 2013 epidemic.

The inclusion criteria were positive Dengue IgM antibodies (by ELISA) in the setting of typical history of fever and purpuric rash, and included all age groups and both genders. Patients who were having mixed infections like Dengue fever and Malaria and where diagnosis was not confirmed were excluded from the study. All the relevant parameters including duration of illness, length of hospital stay, presence or absence of rash, leucopenia, thrombocytopenia, and hematocrit were analyzed with the help of STAT A software version 2.0. The study was approved by the institution research and ethics board.

RESULTS

The total number of confirmed Dengue fever patients admitted during the previously mentioned period was 205 and all patients were included in the study. The number of males was 193 (94.15%), while females were 12 (5.85%) with male to female ratio of 9:1 approximately. Ages ranged from 10-65 years (Table 1). Mean age was 31.29 years (SD ± 13.65). Patients belonging to Peshawar outnumbered and were 145 (70.7%), followed by 30 patients (14.6%) belonging to Swat district (Table 2). Representation from other districts and Afghanistan was minimal (14.7%).

The average duration of symptoms of these patients was 4-5 days, and mean hospital stay was 2.5 days. The history of typical rash and purpura was seen in 56 (28%). Twenty-eight patients (13.9%) presented with history of some bleeding episod. Dengue shock syndrome was seen in 2 patients and both died in intensive care unit (total mortality was 0.96%). Dengue IgM antibodies were positive in all patients while IgG was positive in 34 cases (16.6%). NS1 antigen was done in 76 patients and was positive in 62 patients (81.6%). The Total Leukocyte count ranged from 1600 to 9000 /mm3, and mean TLC was 4283 ± 1919 / mm3. The Platelets count ranged from 15000 to 271000, with mean of 69290 /mm3 ± 50820.5. The Hematocrit ranged from 33-49.1 % with a mean of 42% ± 4.1 (Table 3).

DISCUSSION

Dengue fever is nowadays a frequent occurrence in almost all the major cities of our country mostly in summers around the moon-soon season. The recent outbreak of this disease in district Swat is a warning sign that it may spread to minor cities and towns which can challenge the capabilities of primary care physicians in general and the health authorities in particular. It is important to mention that more than 95% of these patients gave history of visit to Punjab or Swat preceding the illness or transferred during the illness from those places.

Males predominated in our study (about 9:1), and it has been observed in other studies from Pakistan and India, and other South East Asian countries. This could be due to the fact that in these regions, males spend more time outdoors than females, thereby increasing the risk of exposure to mosquito bites. However, a
In this study, not all the clinical and laboratory parameters were analyzed. Like liver enzymes, electrolytes and Creatinine were not included in the study. Similarly, the role of PCR in the diagnosis and different Dengue viral serotypes were not checked. The reasons were the non-availability of these tests at the local level and the meager financial resources. Further studies are needed to explore the relation of disease severity with factors like viral serotypes, population heterogeneity, and some other factors. The utility of NS1 Antigen in the diagnosis of Dengue fever should also be evaluated in further studies.

**CONCLUSION**

It is high time to train the primary care physicians and general practitioners to deal with the Dengue fever patients.

**REFERENCES**

ONLINE SUBMISSION OF MANUSCRIPT

It is mandatory to submit the manuscripts at the following website of JMS. It is quick, convenient, cheap, requirement of HEC and paperless.

Website: www.jmedsci.com

The intending writers are expected to first register themselves and then attach/submit the manuscript. If processing fee is not submitted before should be deposited with Managing Editor in cash or can submit in the form of bank draft in the name of editor JMS. Also follow the format and check list of the Journal. Author agreement can be easily downloaded from our website. A duly signed author agreement must accompany initial submission of the manuscript.