Atypical Presentations in Dengue Viral Infection: Experiences at a Tertiary Care Centre in North India

Amith Kumar S,a Raminderpal Singh Sibiaa

a. Department of Medicine, Government Medical College, Patiala, Punjab*

Abstract

Dengue Fever (DF) is a tropical disease caused by single stranded RNA flavivirus that is transmitted by the bite of female Aedes aegypti mosquito. The WHO 2009 classification divides dengue fever into three groups: dengue fever with or without warning signs and severe dengue. This hospital record based descriptive study included 107 subjects with confirmed dengue viral infection, admitted to Department of Medicine, Rajindra hospital/ Government medical college, Patiala between 1st August 2013 and 31st October 2014. Subjects with preexisting hepatic, cardiac or neurological disorders were excluded from study group. Diagnosis of dengue viral infection was confirmed by a positive NS1Ag test and/or IgM/IgG Dengue Mac ELISA. The recorded data included complete blood counts, peripheral blood films, liver function tests, renal function tests, serum electrolytes, urine analysis, electrocardiography and echocardiography. The obtained data was analysed using IBM SPSS v20.

Introduction

Dengue Fever (DF) is a tropical disease caused by single stranded RNA flavivirus that is transmitted by the bite of female Aedes aegypti mosquito.1 Dengue fever is usually a non-specific and self-limiting biphasic febrile illness. The presentation may range from asymptomatic to Dengue fever, Dengue hemorrhagic fever and Dengue shock syndrome. Classical clinical features associated with dengue viral infection includes high-grade fever, myalgia, retrobulbar pain, joint pains, nausea, vomiting and morbilliform rash. Headache and abdominal pain are common manifestations.2,4 The WHO 2009 classification divides dengue fever into three groups: dengue fever with or without warning signs and severe dengue. The major warning signs associated with dengue viral infection include abdominal pain or tenderness, persistent vomiting, clinical fluid accumulation, mucosal bleed, lethargy, restlessness, liver enlargement > 2cm, increase in hematocrit with concurrent fall in platelet counts.

Atypical presentations are rare and include encephalopathy, encephalitis, seizures, hepatocellular damage, acalculous cholecystitis, myocarditis, pericardial effusion, severe gastrointestinal hemorrhage, Guillain-Barre syndrome and rhabdomyolysis.3,5

Methodology

This hospital record based descriptive study included 126 subjects with confirmed dengue viral infection, admitted to Department of Medicine, Rajindra hospital/ Government medical college, Patiala. Subjects with preexisting hepatic, cardiac or neurological disorders were excluded from study group. The final assessment group included 107 subjects. Diagnosis of dengue viral infection was confirmed by a positive NS1Ag test and/or IgM/IgG Dengue Mac ELISA. The recorded data included complete blood counts, peripheral blood films, liver function tests, renal function tests, serum electrolytes, urine analysis, electrocardiography and echocardiography. The obtained data was analysed using IBM SPSS v20.

Observations

Gastrointestinal / Hepatobiliary Complications

43 (40.18%) subjects had various involvement of Gastrointestinal/ Hepatobiliary system. Mean gallbladder wall thickness observed was 5.2±1.03 mm. Cardiovascular involvement was in form of sinus bradycardia was observed in 24 subjects. Various conduction abnormalities observed included ventricular bigeminy and ventricular tachycardia in one subject each.

Three (02.80%) subjects presented with altered sensorium, signifying encephalopathy. 01 (00.96%) subject had severe respiratory distress with hypoxemia, and was noted as having acute respiratory distress syndrome. Presentations in dengue viral infection range from being asymptomatic to multiple organ dysfunctions. Early identification of the same requires strong index of suspicion, and can lead to reduction in mortality and morbidity.

Key Words: Dengue, Dengue Fever, Atypical Presentations

Table 1. Peak Transaminase Levels among Subjects with Dengue Viral Infection

<table>
<thead>
<tr>
<th>Peak Transaminase Levels</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–2x baseline</td>
<td>11 (10.28%)</td>
</tr>
<tr>
<td>2.1–5x baseline</td>
<td>21 (19.62%)</td>
</tr>
<tr>
<td>&gt;5x baseline</td>
<td>11 (10.28%)</td>
</tr>
</tbody>
</table>

Cite this article as: Kumar AS, Sibia RS. Atypical Presentations in Dengue Viral Infection: Experiences at a Tertiary Care Centre in North India. Academic Medical Journal of India. 2014 Nov 20;2(3):92–4.

*See End Note for complete author details
subjects had hepatomegaly and jaundice clinically. Two (01.86%) patients had clinically significant gastrointestinal bleed manifested as malena. Thirteen (12.14%) subjects had acalculous cholecystitis. Mean gallbladder wall thickness observed was 5.2 ± 1.03 mm. Transaminase levels were as mentioned in Table 1 and Table 2.

Cardiovascular Complications

Sinus bradycardia was observed in 24 subjects. Various conduction abnormalities observed included (ventricular bigeminy and ventricular tachycardia in one subject each). Pericardial effusion was observed in two (01.86%) subjects (Table 3).

<table>
<thead>
<tr>
<th>Cardiovascular Complications</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sinus Bradycardia</td>
<td>24 (22.42%)</td>
</tr>
<tr>
<td>Conduction abnormalities</td>
<td>02 (01.86%) (one ventricular bigeminy and one AV dissociation)</td>
</tr>
<tr>
<td>Pericardial effusion</td>
<td>02 (01.86%)</td>
</tr>
<tr>
<td>Non specific ST-T changes</td>
<td>07 (06.54%)</td>
</tr>
</tbody>
</table>

Neurological Complications

Three (02.80%) subjects presented with altered sensorium associated with confirmatory dengue viral serology. Cerebrospinal fluid analysis revealed normal findings in one patient and lymphocytic pleocytosis (10 - 20 cells) with normal values of proteins and glucose in the remaining two patients. Computed Tomography of head showed no pathological lesions.

Pulmonary Complications

01 (00.96%) patients had severe respiratory distress with hypoxemia. Further evaluation concluded at a diagnosis of acute respiratory distress syndrome. Pleural effusion was observed in 27 (25.23%) patients.

Discussion

Dengue viral infection has been on raise in the last couple of years in the state of Punjab. Dengue fever with its common presentation of high-grade fever, myalgia, retrobulbar pain, joint pains, nausea and vomiting are usually managed conservatively. The major mortality in dengue viral infection is due to dengue hemorrhagic fever. The atypical presentation of dengue fever as hepatobiliary, cardiac and neurological symptoms lead to diagnostic dilemma.

Deranged liver functions are common in dengue viral infection due to direct attack on liver cells or unregulated host immune response against the virus. Similar to our study Wong et al, Kuo et al and Parkash et al reported that AST abnormality was predominantly higher as compared to ALT.

13 (12.14%) subjects had acalculous cholecystitis detected by ultrasonography. Sharma et al, Goh & Tan and Wu et al reported cases of dengue associated acalculous cholecystitis. Sharma et al reported 14 out of 27 subjects with dengue fever to have had acalculous cholecystitis in their case series.

Two (01.86%) the patients had various cardiac conduction abnormalities. Veloso et al, Khongphatthallayothin et al and Chuah et al have reported various instances of cardiac conduction abnormalities associated with dengue fever. Non specific ST-T changes were observed among 07 (06.54%) patients in present series. Wali JP et al in their study among Dengue viral infection by genotype 2 reported 5 out of 17 subjects to have ST-T changes.

One patient had acute respiratory distress syndrome in the present case series. Sen et al, Thong and Lum et al have reported similar cases in past.

Three (02.80%) patients had encephalopathy associated with dengue viral infection in the present study. Verma R et al report 4 cases of dengue viral infection associated encephalitis in a case series. Kho et al, Row et al and Thakare et al have reported similar cases in past.

Therefore we conclude that atypical presentations of dengue fever should always be looked for, diagnosed at the earliest and managed accordingly to decrease morbidity and mortality. Further knowledge of atypical manifestations of dengue viral infection can preclude unnecessary investigations to ascertain their cause.

End Note

Author Information

1. Amith Kumar S, Junior resident, Department of Medicine, Government Medical College, Patiala, Punjab.
2. Raminderpal Singh Sibia, Associate Professor, Department of Medicine, Government Medical College, Patiala, Punjab.

Conflict of Interest: None declared

Reference