Original Research Article

A study of clinical profile of dengue fever among adults at RIMS Raichur

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Abstract

Background and Objectives: Dengue remains as most common mosquito-borne viral illness in humans. Dengue epidemics are reported around the world, but most frequently from the region of South Asia. However, the data of Dengue infection among adults is still limited. This study was done to get additional data on Dengue infection among adults from Raichur. **Methods:** This study was done in 100 patients >15yrs admitted to RIMS Raichur from June 2017 – June 2018. All patients with clinical features of Dengue infection and positive for Dengue Card Test were taken up for the study. Their Clinical profile, Laboratory data and Outcome were recorded. **Results:** Out of 100 patients, the no. of patients with Dengue fever (DF) and Dengue haemorrhagic fever(DHF) were 86 and 14 respectively. Most cases were seen in post monsoon period. All patients complained of fever and most common physical sign was Rash (24%). Liver enzymes (ALT and AST) were significantly raised in DHF compared to DF. Thrombocytopenia of < 100,000 was seen in 85% patients. Rashes, malena and hematemesis were the common bleeding manifestations among DHF patients. In Present study, Ascites and Pleural Effusion played a major role in diagnosis of DHF. **Conclusion:** A total 0f 100 cases with Dengue were analyzed. Results show that DF and DHF were noted in adults particularly during epidemics. Fluid Therapy remains corner stone of management in Dengue Haemorrhagic fever. Early recognition and aggressive management of complications is essential to prevent mortality in adults.

Key Words: Dengue Fever (DF); Dengue Haemorrhagic Fever (DHF).

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INTRODUCTION

The Indian encounter with this mosquito borne illness is interesting. The first major epidemic illness compatible clinically with dengue occurred in Chennai in 1780 with later spread to distant parts of the country. The dengue virus was first isolated in Japan in 1944, but the one isolated in Kolkata in 1944 from the blood sample of American soldiers was considered as a first report for sometime [1]. The epidemics from India include those from Kolkata (1963), Vishakapattanam (1964), West Bengal(1968), Ajmer(1969), Kanpur (1969), Delhi (1970), Rajasthan (1985) and Delhi in 1996.[2,3] DF/ DHF are widely prevalent in India, and all the 4 serotypes DEN 1 to DEN 4 are found in the country. In Southern India, the disease has been reported in Tamil Nadu, Karnataka, Andhra Pradesh and Kerala. Children were predominantly affected, but in recent years clinicians have seen increasing numbers of adult dengue patients[1], with both significant morbidity and mortality. Adults differed in the clinical manifestations of dengue infection from children. It is necessary for healthcare workers to take these differences into consideration when identifying probable cases of dengue infection.[4] Such data should be put to use in the recognition and management of cases. DHF, DSS related deaths has been reported among adults in many studies done in SEA region.

MATERIALS AND METHODS

This study was done in >15yrs patients admitted to RIMS, Raichur from June 2017 – June 2018. All patients

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with clinical features of Dengue infection and positive for Dengue Card Test were taken up for the study. Their Clinical profile, Laboratory data and Outcome were recorded.

Statistical Analysis: The relationship between the frequencies of clinical parameter of Dengue Fever (DF) and Dengue Haemorrhagic Fever (DHF) were analyzed after construction of 2x2 table and applying the Statistical Test of significance Chi-Squared Test of significance or Fisher`s eχ2 test.

Exclusion Criteria

- Patients with malaria, Enteric fever, Leptospirosis and Pneumonia were excluded by doing appropriate investigations.
- Patients tested negative for Dengue Card Test.
- Patients <15yrs of age.
- WHO criteria were adopted to define DF/DHF/DSS

RESULTS

A total of 100 patients were followed up till the completion of study. The patient demographic details were as under in table 1.

Table 1: Age sex distribution for dengue infection

Age Group	Male	Female	Total
15 – 20 yrs	6	4	10
21 – 30 yrs	29	25	54
31 – 40 yrs	13	8	21
41 – 50 yrs	8	1	9
51 – 60 yrs	2	3	5
>60 yrs	1	0	1
Total	**59 (59%)**	**41 (41%)**	**100**

Table 2: Clinical Symptoms among the patients

SYMPTOMS	Total n=100	DF n=86	DHF n=14
Headache	75	61(81.3%)	14(18.7%)
Retro Orbital Pain	10	9(90%)	1(10%)
Myalgia	30	26(86.7%)	4(13.3%)
Arthralgia	38	33(86.8%)	5(13.2%)
Abdominal Pain	45	32(71.1%)	13(28.9%)
Altered Bowel Movements	20	7(35%)	13(65%)

FEVER: Fever occurs in all 100% patients. The mean duration of fever was 4.9 ± 1 day and the mean duration of fever before admission was 2.5 days. High grade fever was seen in 69% of patients whereas continuous type of fever was seen in 41% patients. Other clinical symptoms: include and not limited to Myalgia (30%), Arthralgia (38%) and Headache (75%) were common symptoms after fever as shown in above table.

Table 3: Clinical signs among the patients

Symptoms	Total n=100	DF n=86	DHF n=14
Rash	24	10 (41.7%)	14 (58.3%)
Hepatomegaly	8	3 (37.5%)	5 (62.5%)
Spleenomegaly	10	5 (50%)	5 (50%)

Rash was commonest sign (24%) and was more common in DHF patients than DF.

Table 4: Complete Blood Count of the patients

CBC		Total n=100	DF n=86	DHF n=14
TOTAL WBC COUNT	TC (4000-11000)	99(99%)	86(86.9%)	13(13.1%)
	TC (>11,000)	1(1%)	1(100%)	0(%)
HAEMATOCRIT >45%		21(%)	9(42.9%)	12(57.1%)

Table 5: Liver Enzyme levels in the patients

LFT	Total n=100	DF n=86	DHF n=14
SGOT > 40IU	65	51(78.5%)	14(21.5%)
SGOT > 100IU	30	20(66.7%)	10(33.3%)
SGPT > 40IU	40	30(75%)	10(25%)
SGPT > 100IU	30	25(83.3%)	5(16.7%)

Complete Haemogram, Liver function tests, Renal function test, electrolytes and Chest X-ray were done. Only Haemogram and Liver function test results showed abnormal values which are tabulated in table 4 and 5 respectively. Other investigations were within normal limit.

Table 6: Platelet Count Distribution among the patients

Platelet Count Distribution	Total (N=100)	DF	DHF
>1,00,000	15(15%)	15%	
1,00,000 – 80,000	17 (17%)	17(100%)	-
79,000 – 60,000	15 (15%)	15(100%)	-
59,000 – 40,000	23 (23%)	23(100%)	-
39,000 – 20,000	14 (14%)	13(92.9%)	1(7.1%)
19,000 – 10,000	7 (7%)	3(42.9%)	4(57.1%)
< 10,000	9 (9%)	1(11.1%)	8(88.9%)

Among 100 subjects Around 85 (85%) patients had platelet count less than 1, 00,000/mm^3.

Table 7: Manifestations of plasma leakage among the patients

Plasma Leakge Manifestation	Occurance (n=24)
Pleural Effusion (Pe) 20 (83.3%)	RIGHT PE – 12 (60%) LEFT PE – 4 (20%) BILATERAL PE – 4 (20%)
Ascites	22 (91.7%)
Increased Hematocrit	21 (87.5%)
Gall Bladder Edema	5 (20.8%)
Hypotension	4 (16.7%)
Gi Bleed	2(8.3%)

The total number of patients with Plasma Leakage manifestations was 24%. Ascites(91%) and Pleural

effusion (83.3%)were common Plasma leakage manifestations. All cases of pleural effusion and Ascites were detected by USG examination. All patients with Gall Bladder wall edema were affected with severe Dengue Infection. So Gall bladder wall edema is a significant finding to detect DHF.

DISCUSSION

Age: In this study commonest age group involved was between 21-30 years (table 1, figure 1). Findings were in accordance with other studies like Gupta *et al*, 21-30 years and Kolkata study, 11-30 years.[5,6]

Sex: In this study M: F ratio was 1.5:1. In Daniel R *et al* study also observed male predominance (M: F=1.08:1).7 Clinical spectrum: In present study only 14% patients had DHF, while in Sharma S and Sharma SK 13.5%.[8]

Symptoms: We observed in our study that dengue fever patients present with varying manifestations. Fever was the most common clinical feature with which patients present to the hospital. Fever was observed in all patients followed by headache (75%), myalgia (30%), arthralgia (38%), retro-orbital pain (10%), abdominal pain (45%) and frequency of stool (20%). In Daniel R *et al*, study and in Khan SA *et al*, study also fever was commonest symptom observed in 96.8% and 98.1% cases respectively.[7,9] In Khan SA *et al* and Itoda I *et al*, in Japan, study headache observed in 93.4% and 90% cases respectively.[9,10] In Khan SA *et al*, study myalgia observed in 81.3% cases.[9]

Warning signs: In present study warning signs were found in total 24 patients out of 100 among which ascites (91%), hypotension (<90/60 mmHg) (16%), pleural effusion (83%); Out of these ascites was In Daniel R *et al* study ascites was observed in 13% of total cases.

Abnormal laboratory findings: In present study thrombocytopenia was the most common abnormal laboratory finding, observed in 79% patients (Table 6). In Ageep AK *et al*, Mittal H *et al* and Seema A *et al* also thrombocytopenia was a most common laboratory finding, observed in 88%, 92.6% and 84% cases respectively.[11,12,13]

CONCLUSION

1. Dengue subjects mainly presented with fever [100%] along with headache [75%], arthralgia [38%], myalgia[30%], rash[24%] and retro-orbital pain [10%]
2. DF and DHF were more common in male than female subjects [M:F,1.5:1]
3. Commonest age group affected was between 21-30 years in both male and female subjects
4. Most common lab abnormality was thrombocytopenia[79%] and USG abdomen,USG thorax and Chest X-rays were helpful in diagnosing those with severe infection in the form of warning signs in DF and DHF
5. Fluid management remained cornerstone of treatment along with other supportive measures like platelet transfusions

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