WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 8.074
Volume 7, Issue 04, 168-171. Case Report ISSN 2277–7105

DENGUE FEVER WITH THROMBOCYTOPENIA: PEDIATRIC CASE REPORT

Sami D. Althobiti[1], Turki F. Alharthi[1], Shatha S. Alam[1]* and Enad O. Althobiti[2]

[1]Medical Intern, Taif University School of Medicine, Taif, Saudi Arabia.

[2]Pediatrics Resident, Alhada Armed Forces Hospital, Taif, Saudi Arabia.

Article Received on
28 Dec. 2017,

Revised on 17 Jan. 2018,
Accepted on 06 Feb. 2018
DOI: 10.20959/wjpr20184-10960

***Corresponding Author**
Dr. Shatha S. Alam
Medical Intern, Taif University School of Medicine, Taif, Saudi Arabia.

ABSTRACT

Dengue viral infection is a global health threat and it is the most rapidly spreading mosquito-borne viral disease in the world. A case of 9-year-old boy patient medically free presented to the emergency department with high-grade fever for 4 days, on the 4th-day fever subside, then patient developed abdominal pain and non-bloody diarrhea, There was a positive family history of dengue fever in one of the patient's relatives. Laboratory finding showed thrombocytopenia and leucopenia, further investigation was done and the patient diagnosed with dengue fever and treated conservatively until discharged.

KEYWORDS: Dengue, child, Adolescents, DHF, Dengue hemorrhagic fever.

INTRODUCTION

Dengue viral infection is a global health threat and it is the most rapidly spreading mosquito-borne viral disease in the world[1], in the last decades the incidence increased dramatically, annually there are an estimated 50-100 million cases of dengue fever and 250 000 to 500 000 cases of dengue hemorrhagic fever in the world.[1,2] In recent years, the spread of unplanned urbanization, with associated substandard housing, overcrowding and deterioration in water, sewage and waste management systems, has created ideal conditions for increased transmission of the dengue virus in tropical urban centers.[2] The purpose of this paper was to present a case with similar symptoms of dengue fever along with providing information on its diagnosis and complications.

CASE REPORT

9-year-old boy patient medically free presented to the emergency department with high-grade fever for 4 days. The fever started suddenly 6 days prior to his presentation, was high-grade, documented at home, associated with general malaise and headache, on the 4th-day fever subside. The patient also developed abdominal pain and non-bloody diarrhea. There was no history of arthralgia, myalgia, and sudden bleeding. There was a Positive family history of dengue fever in one of the patient's relatives. On examination, the patient was conscious, alert, with normal vital signs, not in distress, warm extremities and normal capillary refill time. The abdomen tender and bloated, no organomegaly, no sign of ascites, the tourniquet test was negative, other exams unremarkable. Laboratory finding showed thrombocytopenia and leucopenia. Patient admitted and was labeled as nonstock Dengue Hemorrhagic Fever with a differential diagnosis of dengue fever. After admission, he started to have fever again. The patient kept on intravenous fluid and antipyretic with close monitoring of his vital signs, hematocrit, WBCs and thrombocyte level. 2 days after admission still there were neither signs of ascites, pleural effusion, nor increased hematocrit level above 20% (hemoconcentration). The initial diagnosis of Dengue Hemorrhagic Fever rolled out because the presence of plasma leakage was undetected. The case treated conservatively until discharged.

DISCUSSION

Dengue, the most important mosquito-borne viral disease affecting humans and it occurs over 100 countries worldwide and threatens over a half of the world population who lives in the area at risk of infection.[2,3] Dengue fever (DF) and dengue shock syndrome (DHF) caused by Dengue virus (DEN), a small single-stranded RNA virus comprising four distinct serotypes (DEN-1 to -4). These serotypes of the dengue virus belong to the genus Flavivirus, family Flaviviridae.[1,2,3,4]

The various serotypes of the dengue virus transmitted to humans through the bites of infected *Aedes* mosquitoes. Infection with one serotype provides life-long immunity to that virus but not to the others.[4]

The disease severity varies from mild to hemorrhagic fever and dengue shock syndrome.[5] The incubation period starts from 4--10 days after that the illness begins abruptly and followed by three phases febrile, critical and recovery.[1,6] In a febrile phase patient will typically develop high-grade fever sudden in onset. Which last for 2--7 days, for younger

patient it is difficult to distinguish dengue fever from non-dengue febrile disease in early phase, therefore monitoring for warning signs such as abdominal pain, gastrointestinal bleeding, hematuria, febrile seizures and loss of consciousness and other clinical parameter is crucial to detect the progression to critical phase.[1,7]

In critical phase when temperature drops usually on days 3-7 of illness, an increase in capillary permeability along with increasing of hematocrit level may occur, at that point patients are at high risk to develop dengue hemorrhagic fever or dengue shock syndrome also, it is the beginning of acute phase which represents with clinically significant plasma leakage that lasts 24-48 hours.[1,8,9] With progressive plasma leakage may worsen the symptoms thus, shock may occur when a critical volume of plasma is lost through leakage.[8,9]

With prolonged shock, it may lead to progressive organ impairment, metabolic acidosis and disseminated intravascular coagulation, lastly if the patient survives the critical phase within 48-72 hours the general status will improve and slow recovery may take place.[1,4,5]

Eventually, Dengue fever is a self-limited disease; there is no specific treatment other than supportive with analgesic, antipyretics and fluid replacement along with bed rest.[1,4,5]

CONCLUSION

Dengue infection is generally considered to be a pediatric disease, there are currently no vaccines. The best method of prevention is to avoid mosquito bites. Hospitalization will allow the patient to be properly monitored, in case symptoms worsen.

REFERENCES

1. World Health Organization (WHO) Regional Office for South-East Asia. Dengue: guidelines for diagnosis, treatment, prevention and control. Spec Program Res Train Trop Dis, 2009.
2. Guzman A, Istúriz RE. Update on the global spread of dengue. Int J Antimicrob Agents. Elsevier B.V., 2010; 36(SUPPL. 1): S40–2. Available from: http://dx.doi.org/10.1016/j.ijantimicag.2010.06.018.
3. Gubler DJ. Epidemic dengue/dengue hemorrhagic fever as a public health, social and economic problem in the 21st century. Trends in Microbiology. Elsevier Current Trends; 2002. Available from:

http://www.sciencedirect.com/science/article/pii/S0966842X01022880.

4. Rigau-Pérez JG, Clark GG, Gubler DJ, Reiter P, Sanders EJ, Vorndam AV. Dengue and dengue haemorrhagic fever. Lancet (London, England). U.S. National Library of Medicine; 1998. Available from: https://www.ncbi.nlm.nih.gov/pubmed/9752834.
5. Tantawichien T. Dengue fever and dengue haemorrhagic fever in adolescents and adults. Paediatr Int Child Health, 2012; 32(sup1): 22–7. Available from: http://www.tandfonline.com/doi/full/10.1179/2046904712Z.00000000049.
6. Jaweria A, Naeem F, Malik M, Javaid F, Ali Q, Khan MF, et al. Dengue Fever: Causes, Prevention and Recent Advances. Journal of Mosquito Research, 2016; 6(29).
7. Saito M, Oishi K, Inoue S, Dimaano EM, Alera MTP, Robles AMP, et al. Association of increased platelet-associated immunoglobulins with thrombocytopenia and the severity of disease in secondary dengue virus infections. Clin Exp Immunol, 2004; 138(2): 299–303.
8. Srikiatkhachorn A, Krautrachue A, Ratanaprakarn W, Wongtapradit L, Nithipanya N, Kalayanarooj S, et al. Natural history of plasma leakage in dengue hemorrhagic fever: a serial ultrasonographic study. The Pediatric infectious disease journal. U.S. National Library of Medicine; 2007. Available from: https://www.ncbi.nlm.nih.gov/pubmed/17414388.
9. Trewin BJ, Darbro JM, Jansen CC, Schellhorn NA, Zalucki MP, Hurst TP, et al. The elimination of the dengue vector, Aedes aegypti, from Brisbane, Australia: The role of surveillance, larval habitat removal and policy. PLoS Neglected Tropical Diseases, 2017; 08; 11(8).