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DENGUE FEVER: CAUSE, SYMPTOM AND MANAGEMENT

Dr. Priyanka Gupta*[1] and Dr. Aradhana Kande[2]

[1]MD. Scholar, P.G. Dept. of Rog Nidan Evum Vikriti Vigyan, Shri Narayan Prasad Awasthi Govt. Ayurvedic College Raipur, Chhattisgarh, India.
[2]Lecturer, P.G. Dept. of Rog Nidan Evum Vikriti Vigyan, Shri Narayan Prasad Awasthi Govt. Ayurvedic College Raipur, Chhattisgarh, India.

*Corresponding Author: Dr. Priyanka Gupta
MD. Scholar, P.G. Dept. of Rog Nidan Evum Vikriti Vigyan, Shri Narayan Prasad Awasthi Govt. Ayurvedic College Raipur, Chhattisgarh, India.

ABSTRACT

Dengue is an most important acute virus infectious disease caused by RNA virus of the family flaviviridae and spread by Aedes mosquitoes. The clinical manifestations of Dengue virus infection include acute onset high fever, rash, headache, muscles and joints pain, spontaneous bleeding and circulatory shock are commonly seen. Early and accurate diagnosis is critical to reduce mortality. This article provide a detailed overview on Dengue virus infections, various clinical manifestations, diagnosis, prevention and management.

KEYWORDS: Dengue fever, etiology, symptom, management.

INTRODUCTION

Dengue fever is caused by virus, transmitted by bites of mosquito AEDES AEGYPTI. Aedes aegypti is the principal vector. Dengue virus has also been isolated from Aedes albopictus. Dengue occurs in 2forms- Dengue fever/break bone fever and Dengue haemorrhagic fever(DHF).

Target population- Predominately children, previous heterologous dengue infection, predisposes to haemorrhagic fever.

ETIOLOGY

Virus-Dengue virus is a arbovirus belongs to family flaviviridae, genus flavivirus. It is a positive stranded encapsulated ribonucleic acid (RNA) virus. There are three viral structural proteins are associated with virion- the enveloped glycoprotein, membrane, necleocapsid and seven non structural proteins. Dengue viruses has four serotypes, DEN1, DEN2,DEN3, DEN4. All four serotypes are reported from India. Some patients also have co infection with multiple serotypes. Infection with two different serotype is related to the severity of the disease, leading to Dengue haemorrhagic fever.[1]

CLINICAL FEATURES

1. Incubation period- 2 to 7 days.
2. Prodrome- 2 days of malaise and headache.
3. Acute onset- fever, backache, arthralgias, headache generalised.
- pain (break bone fever)
- pain in eye movements
- lacrimation, anorexia, nausea
- relative bradycardia
- lymphoadenopathy
- sclerial infection.
4. Fever-continuous or 'saddle- back' with break on 4th and 5th day, then reoccurs usually lasts 7to8 days.
5. Rash- 1to2 days- flushing faint macular rash.
6. -3to5days- maculopopular, scarlet, morbilliform rash on trunk spreading centrifugally and
7. Sparing palm and soles rarely on face.
8. Recovery- slow.[2]

CRITERIA FOR CLINICAL DIAGNOSIS OF DHF-

a. Fever- acute onset, high continuos and lasting 2-7 days.
b. Haemorrhagic manifestations including atleast a positive tourniquet test.
Petechiae/purpura, Haematemesis, epistaxis, gum bleeding, malena.
c. Low platelet count(100,000/mm3 or less)
d. Elevated hemocrit(20% or more over baseline)
e. Hepatomegaly.[3]

GRADES OF DENGUE HAEMORRHAGIC FEVER

GRADE 1- Fever and non specific constitutional symptoms, positive tourniquet test is only haemorrhagic manifestation.
GRADE2- Grade1 manifestation+spontaneous bleeding.
GRADE3- Signs of circulatory failure are-
- Rapid and weak pulse.
- Narrowing of pulse pressure
- Hypotension
- Cold, clammy skin
- Restlessness.

GRADE4- Profound shock with unidentifiable blood pressure and pulse.[4]

DENGUE-SHOCK-SYNDROME-
Clinically DHF GRADE3 and GRADE4 represents Dengue-shock-syndrome.[5]

INVESTIGATION: Diagnosis is confirm by the-
- Platelet count
- Haematocrit value
- Immunoglobulin test(for IgM antibodies and increase in IgG)
- Haemogglutination inhibition
- Complement fixation
- Neutralization
- Mac-ELISA
- Detection of viral genome sequence by Polymerase chain reaction(PCR).
- Non-structural protein1 (NS1) can be detect in plasma especially during the 1st 5 to 6 days of illness.[6+7]

MANAGEMENT
A)Management of Dengue haemorrhagic fever-
- Treatment is symptomatic and supportive.
- Bed rest is advisable during the acute febrile phase.
- Antipyretics or sponging are required to keep the body temperature below 40C
- Aspirin should be avoided due to bleeding risk.
- In grade 1and2 volume replacement can be given for period of 12-24hours.
- Volume replacement like- colloidal fluid at the rate of 10-20ml/kg body weight.
- Blood transfusion is indicated in cases with profound or persistant shock.
- ntibiotics are given to prevent secondary infections.
- Children 5% dextrose in half strength normal saline solution.

B) Measures to control- The dengue haemorrhagic fever can be controlled or prevent by the following measure-
a.   Mosquito control- The vectors of DF and DHF breed in and around houses and, in principle can be controlled by individual and community action, using antilarval measures.
b.   Vaccine- No satisfactory vaccine is available.
c.   Other measures- The personal prophylactic measures to present mosquito bite.[8+9]

CONCLUSION
Dengue has evolved as a global life threatening public health care. The physician should aware about the varied clinical manifestations of this condition and ensure an early and appropriate treatment plan. This topic is an attempt to explore the causative factor of dengue fever, management, methods of mosquito control, development of vaccine and antiviral drug regiment.

REFERENCES
1. https://www.ncbi.nlm.nih.gov>articles
2. Brian R. Walker, Nicki R. Colledge, Stuart H. Ralston, Ian D. Penman at.al Davidson's Principles and Practice of Medicine 22th edition, 322.
3. K. Park, Park's textbook of preventive and social medicine, M/S Banarsidas Bhanot Publishers 1167, Premnagar Jabalpur, 16th edition, 2000; 187-188.
4. K. Park, Park's textbook of preventive and social medicine, M/S Banarsidas Bhanot Publishers 1167, Premnagar Jabalpur, 16th edition, 2000; 188.
5. K. Park, Park's textbook of preventive and social medicine, M/S Banarsidas Bhanot Publishers 1167, Premnagar Jabalpur, 16th edition, 2000; 188.
6. Brian R. Walker, Nicki R. Colledge, Stuart H. Ralston, Ian D. Penman at. Al Davidson's Principles and Practice of Medicine 22th edition, 324.
7. DOI:10, 14260/jemds/2015/736.
8. K. Park, Park's textbook of preventive and social medicine, M/S Banarsidas Bhanot Publishers 1167, Premnagar Jabalpur, 16th edition 2000; 188.
9. Brian R. Walker, Nicki R. Colledge, Stuart H. Ralston, Ian D. Penman at. Al Davidson's Principles and Practice of Medicine, 22th; 323.