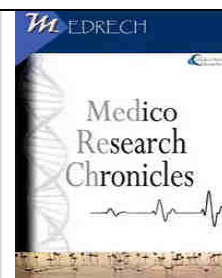




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ASSOCIATION BETWEEN ITCHING AND SUSPECTED DENGUE ENCEPHALITIS

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ABSTRACT

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INTRODUCTION

Dengue is a major health problem in most tropical and subtropical areas and is the most rapidly spreading mosquito-borne viral disease in the world.¹

1) Dengue virus infection involves three phases of illness; the febrile phase, the critical phase (plasma leakage) and the convalescent (reabsorption) phase.¹

During the febrile phase, the most patient-reported a high peak of fever with frontal headache, malaise with retro-orbital pain, joint pain. This will last around the first 3-4 days. After this, the fever subsides and the patient may develop warning signs such as recurrent vomiting, pain in abdomen and thrombocytopenia. WHO developed the warning signs to guide the clinician to perform immediate medical intervention.^{2,3} In this phase patients may develop shock or hemorrhagic manifestations.

The convalescent phase is characterized by cessation of plasma leakage and reabsorption begins. The patient reports less

signs and symptoms. In this phase, the patient may develop a rash with itching.

2) Itching is usually associated with rash, 3 types of rashes in dengue are maculopapular, morbilliform, petechial.³ The skin rash usually spares the face and presents mainly on the limbs, although in some cases the trunk is the predominant site. The initial rash involves flushing erythema of the face, neck, and chest that typically occurs within the first 24-48 h of the onset of symptoms and is thought to be the result of capillary dilatation. The subsequent rash, seen after 3-5 days, is characterized by morbilliform eruption all over-body with petechiae and islands of sparing

(‘white islands in a sea of red’) and is thought to be an immune response to the virus.^{3,4} Morbilliform types of rashes is commonly associated with itching.

3) Itching without rash has been observed in one study³

4) Encephalopathy in dengue is not very common and no specific criteria are there to

diagnose, patient with dengue encephalopathy.^{3,5}

CASE REPORT

We are presenting a case, 12year old boy came to our OPD with complaints of fever for 5 days which subsided with treatment and the patient developed itching on day 6 without rash. As dengue is endemic in our area and we have observed that patients with dengue develop itching without a rash. The itching was more on forearms and legs. To confirm the diagnosis and to keep watch on complications dengue test was advised. The patient was advised ORS and as vital signs were stable, he was sent home. The patient developed convulsions GTCS at home on the same day which lasted for 5 min. Patient was hospitalized and admitted to PICU. Patient at the time of admission was post-ictal drowsiness responding to painful stimuli with no features of meningitis. He was given a loading dose of phenytoin. He was neither pale nor icteric but diaphoretic with a temperature of 99⁰F and normal vital function.

On fundoscopy, papilledema was absent. There was no past-history of convulsion, epilepsy or any other illness. No family history of any similar episodes in the family. CNS examination revealed no focal neurological deficit and the rest of the systemic examination was normal.

On day 1 of admission, his reports were HB 14.1, TLC 5700, platelet count – 96000, PCV 40.1, dengue NS1 antigen-positive, IgM positive and IgG negative. Serum Calcium - 10mg/dl, S Mg- 2.70, INR 1.08, ESR 23 mm/hr, urine routine and microscopy normal. CT brain was normal. CSF was not done as the patient had no neck stiffness and no neurological deficit.

His vitals as well as urine output was normal and were closely monitored in PICU and monitored according to the latest dengue protocol.^{2,3} The seizures did not recur.

On day 3 of admission, his CBC was HB 13.5, TLC 4500, platelet 128000, PCV 33.6. Blood culture by automated BACTEC. No growth at the end of 48 hours of incubation. Chest radiograph was within normal limits. The child was hemodynamically stable with no haemorrhagic manifestations.

On Day 5 of illness, he made a good recovery without any neurological deficit.

On discharge, his platelet count was 1,82,000 and PCV 36.7. Phenytoin maintenance dose was completed. The patient was discharged, and the case was notified.

DISCUSSION

Itching as a symptom of dengue fever has been described only in a few studies.⁶ In dengue fever, complications usually occur after the fever subsides. Hence, healthcare providers have to keep a watch on the patients, vital signs and laboratory parameters to avoid complications.^{3,7,8}

Itching in a child, with a history of fever a few days back can alert the healthcare provider about dengue fever and its complications in endemic areas. Dengue encephalopathy is described in few cases and there is no physical sign and symptoms which alerts the pediatrician about which patient will develop dengue encephalopathy.⁹

Hence, we are presenting this case, in which only itching may be associated with convulsions (dengue encephalitis). Dengue neurological classification has been described by Murthy into 3 categories, neurotropic effects of virus-like encephalitis, meningitis, myositis, and myelitis, systemic complications like encephalopathy and stroke and post-infectious complications like encephalomyelitis, optic neuritis and Guillain Barré syndrome.^{9,10}

Varathraj also has defined criteria for dengue encephalitis.¹⁰ The criteria are 1) fever 2) acute signs of cerebral involvement 3) presence of anti-dengue IgM antibodies or dengue genomics material in the serum/CSF

4) exclusion of other causes of viral encephalitis and encephalopathy.

We have met with 3 criteria, as the patient was stable, so the CSF examination was not done.

CONCLUSION

Itching after a fever without rash may be suggestive of dengue and associated with dengue encephalitis.

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