



## Case Report

# Dengue convalescent rash

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### ABSTRACT

Dengue is one of the common causes of fever in tropical countries like India. It is self-limiting fever with recovery in almost all cases unless patient develop hepatic failure or haemorrhagic fever. Few of the patients developed convalescent rash during the recovery phase. We are reporting convalescent rashes in dengue which are very common but very few published literatures are available so we are reporting this case.

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## 1. Introduction

Dengue is a major public health problem in tropical and sub-tropical; regions of the world. The geographical spread has led to the global resurgences of epidemic dengue fever and emergence of dengue hemorrhagic fever in past twenty-five years with hyper endemicity in many urban centers in the tropics.<sup>1</sup> The actual number of dengue cases are under reported and many cases are miss classified though it is a notifiable disease. Dengue virus remains one of the most common causes of fever in the monsoon in tropical countries like India. It is a self-limiting, systemic viral infection. Dengue viral infection involves three phases of illness: the febrile phase, the critical phase (plasma leakage) and the convalescent(reabsorption) phase. Recovery from dengue fever is usually followed by a convalescent phase when plasma leakage stops and reabsorption begins. These convalescent rashes may occur within 1-2 days of defervescence, lasting 1-5 days; it is morbilliform or maculopapular, sparing palm and soles and occasionally desquamates. Convalescent rash can be severe in some patients and might be associated with pruritis.<sup>2</sup>

Though convalescent dengue rashes are very common, very few published literatures are available, so we are reporting this case.

## 2. Case Report

A 30-year-old male presented to our outdoor department with complaint of generalized maculo-papular rash over neck, chest, abdomen, back, bilateral upper and lower limbs sparing face, palms and soles. The patient also complained of severe backache. His vitals were stable with blood pressure 116/72 mmHg, pulse 88/min, oxygen saturation 98% on room air. On laboratory work up hemoglobin was 11.5 mg/dl, total leucocyte count was 4100, polymorphs 63%, leucocyte 30%, basophils 1%, eosinophil 2% and monocyte 4%. The platelet count of the patient was 1,10,000 cells/mm<sup>3</sup>, packed cell volume was 35.1% at the time of presentation. Coagulation profile, kidney function test and other viral markers were negative. Liver function test was marginally deranged (SGPT 110, SGOT 84 and total bilirubin 1.8). Patient had a history of fever five to six days ago and he was diagnosed as a case of dengue fever (NS1 positive) after which he developed rash starting from the chest and overnight spreading throughout the body. He

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refused to take picture of lower limbs. [Figures 1, 2 and 3] The rash was maculopapular, erythematous, non-blanching, pruritic and fused with each other leaving islands in sea of red.<sup>3</sup> We advised antihistaminic tablet for the symptomatic relief of itching and local application of lacto calamine lotion. The rash started resolving after 48 hours of onset and were completely resolved in next 24 hours.



**Figure 1:** A 30 year old male presented with complain of generalised rash later diagnosed as dengue fever. Figure shows distribution of rashes over chest.



**Figure 2:** A 30 year old male presented with complain of generalised rash later diagnosed as dengue fever. Figure shows rashes over trunk.

### 3. Discussion

Usually, classical dengue fever begins with sudden onset of fever with chills, severe headache, malaise and arthralgia. The fever last for 2-7 days and may reach 41-degree Celsius. Fever typically abates with the cessation of viremia. Occasionally and more commonly in children the



**Figure 3:** A 30 year old male presented with complain of generalised rash later diagnosed as dengue fever. Figure shows distribution of rashes over back.

fever abates for a day than returns; that's why dengue fever also known as saddle back fever.<sup>4</sup> Fever that lasts for more than 10 days is probably not due to dengue. Sometimes hemorrhagic manifestations like petechiae, purpura, ecchymosis, epistaxis, gum bleeding, hematemesis or malena can be presenting symptoms of dengue fever.<sup>5</sup> These hemorrhagic manifestations sometimes may be due to thrombocytopenia or platelet dysfunction. Skin rash in dengue fever occurs due to virus-induced injury of smaller blood vessels. The NS1 is a 43-48kDa glycoprotein expressed in all flavivirus infected mammalian cells. NS1 antigen detection is a highly specific and very useful in establishing diagnosis of dengue fever in acute febrile phase.<sup>6</sup> Anti NS1 Antibody acts as autoantibodies that cross reacts with platelets and non-infected endothelium leading to disturbance in capillary permeability. Dengue virus replicates in vascular endothelial cells leading to endothelial swelling, perivascular oedema, and mononuclear cell infiltration which results in release of various pro-inflammatory cytokines and thus precipitating the injury.<sup>7</sup> Despite high incidence of dengue in India, Dengue rash is an uncommon clinical finding in countries like India due to darker skin shades. Though any co-relation between cutaneous manifestations and severity of illness have yet not been established, further research might help in establishing association between extent of skin involvement and organ involvement.<sup>8</sup>

#### 4. Conclusion

Febrile rashes are a common presentation and can be typically seen in high grade fever. Through this case report we wanted to convey that the maculo-popular rashes which appear during convalescent phase of dengue fever are although common but are under-reported. In future this publication might be helpful to gather more published data in understanding more about the rashes.

#### 5. Conflict of Interest

None.

#### 6. Source of Funding

None.

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