

# Chikungunya in Infants: A Case Series

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## ABSTRACT

**Introduction:** Chikungunya is a viral disease transmitted by infected mosquitoes—*Aedes aegypti* and *Aedes albopictus*. Though Indian subcontinent is known to be an endemic area for Chikungunya, it is rare in infants. During the recent outbreak, vesiculobullous blistering was noticed in infants and aphthous-like skin lesions in adults. Here we are presenting a case series of 15 infants who were diagnosed with chikungunya with similar presentations.

**Results:** The median age of infants was 5 months and 10/15 (67%) were less than 6 months and 8/15 (53.3%) were males. Fever was present in all the infants with biphasic fever noted in 7/15 cases (46%). Skin manifestations were noted in all infants. Flaccid vesiculobullous lesions were noted on day 3–5 of fever with peeling of skin in 2nd week of illness in 11/15 (73.3%) infants. Three infants had maculopapular rash, which was noticed on day 2 of fever. Rash was noted in the legs (8/15) in all the infants with majority of them involving the medial aspect of the thigh. Flushing was present in 9/15 (60%). Conjunctivitis (nonexudative) was noted in 5/15 (33.3%) infants. The course was complicated by PICU stay in 5/15 (33%) infants. The median day of discharge was day 8 of illness (range—6–11 days).

**Conclusion:** Infants with chikungunya have a peculiar presentation in the form of extensive cutaneous involvement. As chikungunya is an epidemic disease in India, with the above clinical presentation the possibility of chikungunya should be considered.

**Keywords:** Chikungunya, Cutaneous, Infants.

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## INTRODUCTION

Chikungunya fever, a tropical disease caused by alpha viruses of the family togaviridae, is transmitted by *Aedes* mosquito. It causes an abrupt onset high-grade fever with severe arthralgia or arthritis.<sup>1</sup> In the recent outbreak, an increasing proportion of infants being affected were noticed with presentation different from older children.<sup>2,3</sup> Hence, we are presenting a case series of infants with chikungunya to understand the disease presentation.

## MATERIALS AND METHODS

This retrospective descriptive study was conducted in a private pediatrics tertiary care hospital. Data of 15 infants with chikungunya fever (PCR positive) were collected and analysis was done.

## RESULTS

The median age of infants was 5 months and 10/15 (67%) were less than 6 months and 8/15 (53.3%) were males. Fever was present in all the infants with biphasic fever noted in 7/15 cases (46%). The median day of fever at admission was 2 days (range—2–5 days) and lethargy was noted in 10 infants (67%). Other symptoms like loose stools were noted in 6/15 infants and 2 infants had vomiting.

Skin manifestations were noted in all infants. Flaccid vesiculobullous lesions were noted on day 3–5 of fever with peeling of skin in 2nd week of illness in 11/15 (73.3%) infants. Three infants had maculopapular rash, which was noticed on day 2 of fever. One infant had generalized erythema that developed abruptly and subsided within 2 days. Rash was noted in the legs (8/15) in all the infants with majority of them involving the medial aspect of the thigh. Less commonly, trunk (3/15), upper limbs (4/15), and face (2/15) were involved. Flushing was present in 9/15 (60%). Conjunctivitis (nonexudative) was noted in 5/15 (33.3%) of infants. Irritability was present in 6/15 (40%) infants with seizures and poor sensorium in 3/15 (20%). Family history of fever was seen

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in 5/15 (33.3%) infants. Fever settled on a median day 6 of illness (range—day 5–8).

Thrombocytopenia was noted in 8/15 (53%) and anemia in 6/15 infants. CRP was above 6 in 6/15 (40%) infants. Hyponatremia was noted in 7/15 (46.6%) infants. Liver enzymes were elevated at least by 1.5 times the normal in 10/15 (67%). Provisional diagnosis was dengue in 8/15 (53%) infants and meningitis in 4/15 (26.6%) infants. Chikungunya was a part of provisional diagnosis in seven infants. Two infants had coagulopathy and one infant had ventriculostriate vasculopathy. The course was complicated by PICU stay in 5/15 (33%) infants. The median day of discharge was day 8 of illness (range—6–11 days) (Table 1).

## DISCUSSION

Prior to the reunion chikungunya epidemic, cutaneous manifestations were thought to be benign.<sup>2,3</sup> During the recent outbreak, the cutaneous manifestations have been more severe in the form of extensive bullous lesions.<sup>4–6</sup> Skin manifestations were noted in all the infants in our study with the most common manifestation being flaccid vesiculobullous lesions involving the lower limbs while facial involvement was rare.

**Table 1:** Summary of chikungunya manifestations

<i>Characteristic</i>	<i>Frequency</i>	<i>Percentage</i>
Fever	15	100
Biphasic fever	7	46
Lethargy	10	67
Loose stools	6	40
Vomiting	2	13
Skin manifestations	15	100
Flaccid vesiculobullous lesions	11	73.3
Maculopapular rash	3	20
Generalized erythema	1	6.6
Distribution of rash		
Legs	8	53.3
Trunk	3	20
Upper limbs	4	26.6
Face	2	13.3
Flushing	9	60
Nonexudative conjunctivitis	5	33.3
Irritability	6	40
Seizures/poor sensorium	3	20
Family history of fever	5	33.3
Thrombocytopenia	8	53
Anemia	6	40
CRP > 6	6	40
Hyponatremia	7	46.6
Liver enzymes > 1.5 times normal	10	67
Coagulopathy	2	13.3
PICU stay	5	33

In our study, lethargy and irritability were present along in around 40% of infants and similar findings were noted in a study

done by Joseph et al.<sup>4</sup> Edema was noted among 33% infants. Similar findings were seen in study done by Swaroop et al.<sup>5</sup> The clinical course was complicated by seizures or PICU stay in nearly 20% of infants. Most common initial diagnosis considered in our study was dengue fever. Unlike the dengue fever, hemorrhagic manifestations are rare in chikungunya<sup>7</sup> with two infants having coagulopathy in our study. No deaths were noted in our study.

## CONCLUSION

Infants with chikungunya have a peculiar presentation in the form of extensive cutaneous involvement. As chikungunya is an epidemic disease in India, with the above clinical presentation the possibility of chikungunya should be considered.

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