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ORIGINAL ARTICLE *DERMATOLOGY*

Chik sign

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ABSTRACT

Objectives: The objective is to study the cutaneous manifestations in suspected cases of Chikungunya fever.

Material and Methods: A study was carried out in the outpatient department of DVL at Government General Hospital in Kakinada, India from July 2024 to September 2024. The study enrolled 24 patients with cutaneous manifestations, a history of fever, and arthralgia.

Results: Out of 24 patients, the Chik sign was found more often in males than in females. The patients showed hyper-pigmentation of the centro-facial region.

Conclusion: The Chik sign is seen in chikungunya fever and other arboviral diseases such as dengue. All patients had negative results on dengue serology. This series of Chik signs plays a significant role in diagnosing patients with Chikungunya in areas with limited resources.

Keywords: Aedes, Arbovirus, Chik sign, Chikungunya, Dengue fever

INTRODUCTION

The Chikungunya virus is an alphavirus transmitted by *Aedes aegypti* and *Aedes. albopictus* mosquitoes.[1] The symptoms of chikungunya virus infection include pyrexia, chills, headache, arthralgia, and skin rash. Around 15% of cases may involve "silent" infections.[2] Chikungunya can affect individuals across all age groups and genders. The chik sign is a skin condition seen in chikungunya fever marked by brownish hyperpigmentation on the nose. This is attributed to higher melanin dispersion and accumulation in the epidermis.[3,4] Chik sign is usually seen in patients with Chikungunya fever, but some studies suggest that Chik sign can also be observed in some patients with dengue fever.[5]

MATERIAL AND METHODS

An observational study was conducted in the DVL department at the Government General Hospital, in Kakinada, Andhra Pradesh, India. This study examined 24 patients with a history of fever, arthralgia, and facial pigmentation.

RESULTS

The study was carried out for 3 months from July 2024 and September 2024 involving 24 cases with a presentation of Chik sign and a history of fever. Among the 24 patients, males were 15

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(62.5%) and females were 9 (37.5%) [Chart 1]. The youngest patient was a 25-day-old female, and the oldest was a 50-year-old male. The mean age is 27 years [Chart 2]. Patients were evaluated based on their presentation and detailed history. All the patients had a history of fever and joint pain occurring 1–2 weeks before the appearance of skin manifestations. The investigations advised for all the patients include a complete blood picture, dengue serology (IgM and IgG antibodies), and IgM and IgG antibodies of the chikungunya virus. All 24 patients tested positive for IgM antibodies of the chikungunya virus and negative for dengue serology. There was no significant drug history and skin manifestations before the onset of the disease. Multiple hyperpigmented asymptomatic macules and patches (Chik sign) were seen over the alae and dorsum of the nose [Figure 1] and perinasal area. In a 25-day-old neonate, generalized hyperpigmentation is seen all over the body [Figure 2] Various sites of pigmentation were observed [Table 1]. The most common being the dorsum of the nose, followed by the alae of the nose, cheeks, and trunk. All adult patients are advised to use kojic acid, glycolic acid, and niacinamide combination skin lightening cream with strict sun protection and a neonate-advised moisturizer and sun protection. The reduction of pigmentation starts in 2 weeks after the application of skin lightening cream and the complete reduction was observed in 18 (75%) patients within two months; 80% reduction of pigmentation was observed in 5 (20.8%) patients, and 60% reduction of pigmentation was observed in the neonate after 2 months.

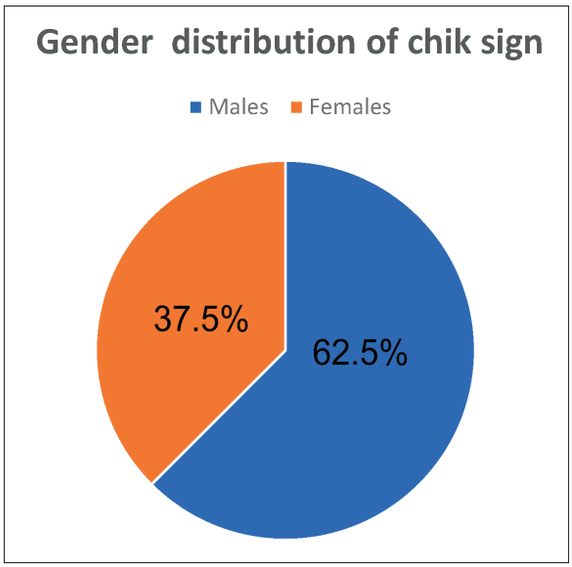

Chart 1: Gender distribution of chik sign.

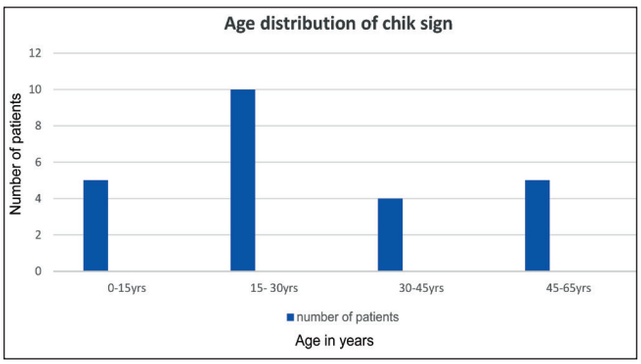

Chart 2: Age distribution of chik sign.

DISCUSSION

Chikungunya fever is a reemerging mosquito-borne pathogen and belongs to the genus Alphavirus, family Togaviridae. It has an incubation period of three days to one week. The symptoms of chikungunya fever are fever, articular pain, exanthem, and headache that arises acutely. The cutaneous manifestations of chikungunya include maculopapular rash, vesicles and bullae, genital aphthae, oral/lip aphthae, axillary pustules and ulcers, desquamation, urticaria/angioedema, purpura/palmar rash, acquired ichthyosis, flared-up tinea, seborrheic dermatitis-like rash, and flare-up of psoriasis. In this case series, the patients present with hyperpigmented macules over the centro-facial region, i.e., the alae and dorsum of the nose and bilateral cheeks (Chik sign).[6] Diagnosis of chikungunya is challenging because there are more overlapping symptoms with other arbovirus diseases. Investigations required for the detection of the chikungunya virus include cell culture, nucleic acid testing and detection of specific IgM antibodies using a serological assay. Peripheral health centers often lack the equipment for the diagnosis of chikungunya fever; here, Chik sign plays a vital role in the clinical diagnosis of the disease.

Figure 1: Chik sign involving alae and dorsum of the nose.

Figure 2: (a) Chik sign in 25-day old neonate involving face and upper limbs. (b) Chik sign involving trunk. (c) Chik sign involving lower limbs.

Table 1: Sites of pigmentation in Chikungunya.

Sr. No.	Site	Number of patients
1	Dorsum of the nose	24 (100%)
2	Alae of the nose	21 (87.5%)
3	Cheeks	20 (83.3%)
4	Trunk	2 (8.3%)

CONCLUSION

The Chik sign is commonly observed in cases of chikungunya fever; it can also be seen in dengue fever. In this series, all 24 patients had a prior history of fever and arthralgia, and their dengue serology was negative. This case series of Chik sign highlights the innocuous and self-limiting nature of nasal pigmentation, which can be a valuable clinical indicator of chikungunya infections in resource-limited settings.

Ethical approval: The research/study approved by the Institutional Review Board at Rangaraya Medical College, number, IEC/RMC/2024/1353, dated 18th October 2024.
Declaration of patient consent: The authors certify that they have obtained all appropriate patient consent.
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