

Chik Sign With Dermoscopic Findings in 10 Patients With Dengue: Case Series

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Key words: chik sign, dengue fever, pigmentation, dermoscopy, chikungunya

Citation: Sangal B, Barnwal S, Priya D, Pant A, Vashisht A. Chik Sign With Dermoscopic Findings in 10 Patients With Dengue: Case Series. *Dermatol Pract Concept*. 2024;14(3):e2024187. DOI: <https://doi.org/10.5826/dpc.1403a187>

Accepted: April 10, 2024; **Published:** July 2024

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Funding: None.

Competing Interests: None.

Authorship: All authors have contributed significantly to this publication.

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Introduction

Dengue and chikungunya are two arboviral diseases that are endemic in many parts of the world. The chik sign is a cutaneous manifestation of chikungunya fever that is characterized by brownish hyperpigmentation of the nose that is hypothesized to occur due to deposition of intraepidermal melanin triggered by the virus [1]. It has been rarely reported in patients with dengue fever, but prevalence of this cutaneous manifestation with dermoscopic findings in this disease is not well described in literature [2]. This case series reports 10 patients with dengue fever who presented with the chik sign along with their dermoscopic findings.

Case Presentation

Ten patients (7 females and 3 males) with a mean age of 24 years, presented in the Dermatology Outpatient Department of a tertiary care hospital in India complaining of pigmentation on and around nose. There was history of fever in all the patients 2-3 weeks before onset of pigmentation accompanied with maculopapular erythematous rash, headache and

muscle pain. There was no history of drug intake or history of prior dermatoses. On examination asymptomatic hyperpigmented macules and patches (chik sign) were seen on the nasal alae (10 patients) (Figure 1A), dorsum of the nose (9 patients), bilateral cheeks (3 patients), and bilateral palms (1 patient). There was no mucosal involvement. All patients had a positive dengue NS1 antigen test and dengue IgM antibody test. Dermoscopic findings (Dinolite premier AM4113ZT) showed a pseudo-reticular pigment network, brown globules with brownish background, pustulous follicular openings, and perifollicular accentuation of pigmentation (Figure 1B). Hydroquinone cream 2% along with strict sunprotection was advised for all adult patients with good results at the end of 6 weeks.

Conclusions

Dengue fever is an arboviral disease which is associated with cutaneous and mucosal findings like confluent erythema, morbilliform eruptions, and hemorrhagic lesions in different phases of disease [2]. In this case series, all patients presented with chik sign and dengue as a cause of fever was

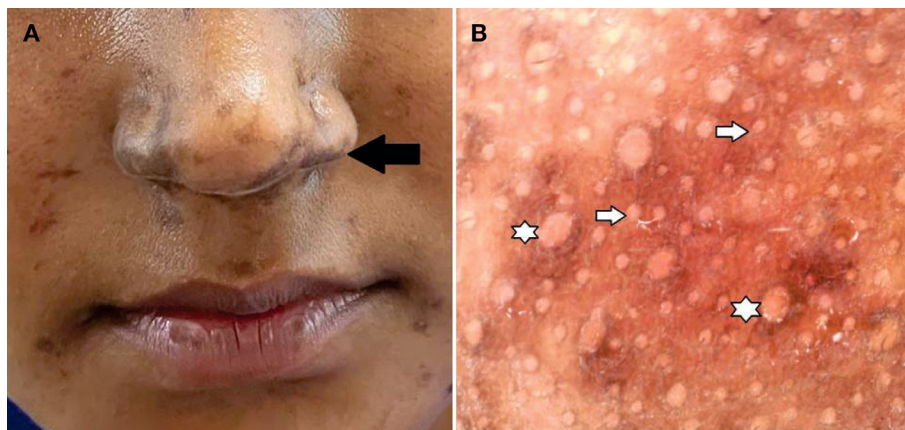


Figure 1. (A) Chik sign on nose. (B) Dermoscopic findings: perifollicular pigment accentuation (stars), patulous follicular openings with a brown background (arrows).

Table 1. Comparison of Dermoscopic Findings of Melasma, Lichen Planus Pigmentosus, Sebomelanosis, and Chik Sign

	Melasma	Lichen Planus Pigmentosus	Sebomelanosis	Chik Sign
Background	Dark hyperpigmentation	Faint hyperpigmentation with occasional erythema	Hyperpigmented to erythematous background	Brown background
Reticular network	Exaggerated pseudo-network	Accentuated uniform/nonuniform	Prominent pseudo-network with erythema at margins	Hyperpigmented pseudonetwork with perifollicular accentuation of pigment.
Other	Brown dots and globules, annular and arcuate structures, telangiectasia	Evenly spaced-out brown to gray dots and globules	Yellowish scales, telangiectasia, whitish yellow excrescences of sebum coat the hair follicles	Patulous follicular openings, few brown globules

confirmed by performing dengue serology and NS1 antigen testing. Other causes of hyper-pigmentation were directly, or indirectly, ruled out in our case series.

The chik sign has been known to be associated with chikungunya fever. The postulated cause of hyperpigmentation may be attributed to increased intraepidermal melanin, dispersion or retention triggered by the virus [3]. Some authors consider the chik sign as post-inflammatory hyperpigmentation which is further aggravated by ultraviolet ray exposure since the face is the most common site of the lesions [4-5]. We hypothesize the same reason for the hyperpigmented

lesions seen in patients of dengue and this series provides further evidence that the chik sign can occur in patients with dengue.

Table 1 highlights dermoscopic changes in close differentials of the chik sign, which are sebomelanosis, melasma, and lichen planus pigmentosus.

All cases except the infant were treated with 2% hydroquinone cream and strict sun protection.

In conclusion, the chik sign in dengue fever is an underreported entity, and dermoscopy further aids in differentiating it from other hyperpigmentary disorders.

References

1. Bhatia SS, Shenoi SD, Hebbar SA, Kayarkatte MN. The chik sign in dengue. *Pediatr Dermatol*. 2019;36(5):737-738. DOI: 10.1111/pde.13883. PMID: 31260132.
2. Thomas EA, John M, Kanish B. Mucocutaneous manifestations of dengue fever. *Indian J Dermatol*. 2010;55:79-85. DOI: 10.4103/0019-5154.60359. PMID: 20418984.
3. Chavan RB, Sakunke AS, Belgaumkar VA, et al. Varied cutaneous manifestations of chikungunya fever: a case series. *Int J Res Dermatol* 2017;3:289-292. DOI: <http://dx.doi.org/10.18203/issn.2455-4529.IntJResDermatol>. PMID: 20172214.
4. Kumar R, Sharma MK, Jain SK, Yadav SK, Singhal AK. Cutaneous manifestations of chikungunya fever: observations from an outbreak at a Tertiary Care Hospital in Southeast Rajasthan, India. *Indian Dermatol Online J* 2017;8:336-42. DOI: 10.4103/idoj.IDOJ_429_16. PMID: 28979866.
5. Vinay K, Ankad BS. Dermatoscopic features of pigmentary diseases in ethnic skin. *Indian Dermatol Online J* 2021;12:24-33. doi: 10.4103/idoj.IDOJ_561_20. PMID: 33768020