

The Chik Sign – Unmasking Chikungunya through Facial Pigmentation – A Case Report

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ABSTRACT:

The "Chik Sign," which is a distinctive facial pigmentation pattern associated with Chikungunya fever, aids in prompt clinical diagnosis. A 38-year-old woman presented with complaints of facial pigmentation and had a history of severe joint pain. Dermatoscopic examination supported the diagnosis of Chikungunya, underscoring the significance of early recognition. This case highlights the importance of considering Chikungunya in dermatological presentations of facial pigmentation.

Key words: Chik sign, Chikungunya, facial melanosis, Dermoscope

Case Description

A 38-year-old female patient presented to the outpatient department with complaints of brownish-black coloured skin lesions over the face for 1 week, associated with incapacitating severe joint pain in knees, shoulders, ankles and wrists. The patient had a history of fever, 3 days before the onset of joint pain. She was initially diagnosed elsewhere with enteric fever and received conservative management and fluid therapy. After 1 week, the fever subsided, and the patient developed acute-onset transient itchy red papular lesions on her nose and centre of face that gradually darkened over a few days. She was diagnosed with melasma and received topical creams from outside.

Introduction

Chikungunya means “that which bends up” referring to a stooped posture that develops due to severe arthritic symptoms¹. Chikungunya fever is caused by the alphavirus of the *Togaviridae* family and

transmitted by the *Aedes* mosquito, characterised by febrile illness, arthritis and cutaneous manifestations². Diagnosis of Chikungunya is based on a high index of clinical suspicion.

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After 1 week, the fever subsided, and the patient developed acute-onset transient itchy red papular lesions on her nose and centre of face that gradually darkened over a few days. She was diagnosed with melasma and received topical creams from outside.

On examination, the patient had multiple discrete to coalescing hyperpigmented macules over the central area of the face, including the nose and medial aspect of both the cheeks smallest being 0.2x0.1 mm to the largest being 10x5 mm (Figure 1). Dermoscopy revealed a

pseudo-reticular pigment network against a brownish background, white globules, patulous follicular openings, and telangiectasia (Figure 2). The findings were suggestive of the Chik sign.



Figure 1 Discrete hyperpigmented macules on her nose and the centre of her face.

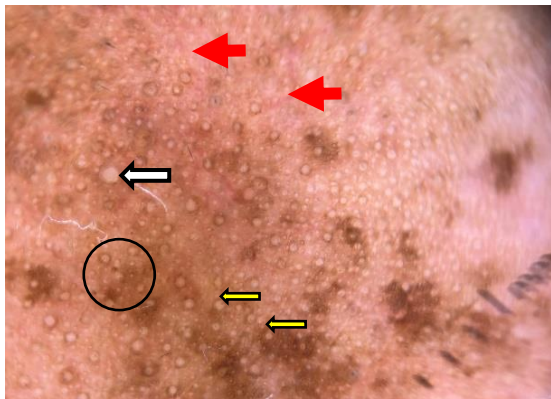


Figure 2 Dermoscopic view showing- white globules (White arrow), dilated follicular openings (Yellow arrow), pseudo-reticular pattern (Black Circle) and telangiectasies. (Red Arrow)

The patient's symptoms and clinical findings were consistent with those of Chikungunya and positive Chikungunya IgM test results confirmed the diagnosis. Nonsteroidal anti-inflammatory drugs, bed rest, and plenty of oral fluids were given for symptom relief. The patient was advised strict sun protection, topical sunscreens and combination cream containing glycolic acid (7.5%), kojic acid (2%), and arbutin (2%).

Discussion

Chikungunya is a viral disease that can present with a wide range of symptoms, including fever, joint pain, and rash. After a mosquito bite, chikungunya virus enters subcutaneous capillaries, infects skin cells, and

spreads rapidly via the blood, causing high fever, headaches, rashes, and severe muscle/joint pain. Pigmentary changes in chikungunya are not fully understood, but postulated mechanisms include post-inflammatory effects, increased melanin dispersion, and retention. Ultraviolet rays may exacerbate these changes, particularly on the face. Inflammation might cause basal keratinocytes to release melanin, which macrophages then phagocytose, leading to pigmentation. Therapeutic measures include photoprotection, sunscreen, and topical hypopigmenting agents like hydroquinone cream, with or without a short course of topical steroids. The pigmentation can be mistaken for melasma, leading to delayed diagnosis and treatment²⁻³.

In our case patient had history of facial lesion only since 7 to 10 days and on further probing additional history of severe and excruciating joint pain was sought. Thus this raised an alarm in our case of diagnosis of chikungunya which was supported by dermoscopy, and subsequently confirmed by serology.

Various mucocutaneous features observed in Chikungunya include pigmentary changes, maculopapular eruption, intertriginous aphthae-like lesions, transient nasal erythema, vesicobullous lesions, lichenoid eruptions, exacerbation of preexisting dermatoses, and subungual haemorrhage. Pigmentary changes, usually appear after 1 to 3 weeks, include centrofacial (freckle-like macules), diffuse pigmentation (involving face, pinna, and extremities), flagellate pigmentation (face and extremities), mucosal (tongue and palate), melasma-like over the face, lichen planus pigmentosus-like over neck and flexures, periorbital hyper melanosis, and pigmentation of existing acne lesions^{2,4,5}.

Chik sign in Chikungunya shows patulous follicular openings, pseudoreticular pigment

network sparing follicles, a brownish background, few dark brown globules, white scales, and bluish-grey globules³. Chik sign, besides chikungunya, has also been reported in dengue and Covid-19. Areas of light-to-dark brown reticular pigment network over light brown background with peri-follicular pigment clumping were seen in Covid-19^{6,7}.

Conclusion

Patients presenting with a short duration or acute onset melasma-like pigmentation over the face, a history of a febrile illness and debilitating arthritis should be evaluated.

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