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Rare Presentation of Chik Sign with Diagnosis of Chikungunya

ABSTRACT

Middle-aged woman, a known case of hypertension, presented with acute onset of fever and also hyperpigmented patch on the nose and sides of the nose for 2–3 days back. Laboratory values showed negative typhoid immunoglobulin (Ig) M, dengue NS1 antigen, dengue IgG and IgM, and malaria. The urine routine was normal. Serology was positive for chikungunya virus RNA polymerase chain reaction. The patient's condition improved with supportive treatment and was discharged home.

Key words: Chik sign, Chikungunya virus RNA PCR, Hyperpigmented patches

INTRODUCTION

Chikungunya fever is a re-emerging viral infection. It is an acute febrile illness caused by arboviridae, characterized by debilitating polyarthralgia and other constitutional symptoms. The striking post-inflammatory hyperpigmentation over the centrofacial area (chik sign/brownie-nose) may even persist upto 6 months. The postulated cause of hyperpigmentation may be attributed to increased intraepidermal melanin dispersion or retention triggered by chikungunya fever. The presence of 'chik sign' may be a useful marker for retrospective diagnosis of chikungunya fever in resource-limited settings.

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CASE REPORT

A 48-year-old female presented with a history of fever 8 days back. She was apparently alright 8 days back when she complained of acute-onset fever which was associated with arthralgia, which was worse in the morning and relieved by mild exercise and exacerbated by aggressive movements. The patient has a known case of hypertension which is controlled on medications. The patient has a history of allergic reactions to etoricoxib medication.

On general examination, the patient was found to be conscious and well oriented.

Temp – 98.8 F (febrile) and pulse – 92/min regular. All peripheral pulses are well felt. Respiratory rate – 18/min abdominothoracic in nature.

Spo2 – 98% on room air and BP –140/90 mmHg in the right upper limb, in the supine position. The patient was also found to have mild bilateral pedal edema.

On systemic examination, no significant abnormalities were detected in any of the systems [Figure 1].

Local examination shows hyperpigmented patches on the nose and sides of the nose. All routine blood investigations were performed which revealed negative typhoid immunoglobulin (Ig) M, negative dengue ns1, IgG and IgM, and negative malaria. The urine routine was normal. Chikungunya virus RNA polymerase chain reaction (PCR) was positive, and hence, the patient was given a dermatology reference who suggested topical hydroquinone treatment and the patient showed improvement and the pigmented patches also reduced by 4 weeks [Figure 2].

DISCUSSION

Chikungunya is an alphavirus infection that is transmitted by *Aedes* mosquitoes. The virus has been reported to infect macrophages, fibroblasts, and endothelial cells in the skin.[1] It is widely distributed in Asia, Europe, Africa, and America.[2] It classically presents with fever, arthralgia, headache, and gastrointestinal manifestations. The most common cutaneous lesion described in chikungunya fever is an erythematous maculopapular rash affecting the trunk, limbs, and face.[3] Maculopapular rash was the most common presentation observed in 67% of patients.[2] Transient nasal erythema has been most commonly seen.[3] The mechanism of pigmentation could be post-inflammatory due to increased intraepidermal melanin dispersion/retention triggered by the virus had been postulated as a cause for pigmentation.[4]

The diagnosis of chikungunya fever is confirmed using real-time reverse-transcription PCR for chikungunya.[2] There is no effective antiviral treatment; the treatment is symptomatic. Preventing the spread to relatives completes this management.

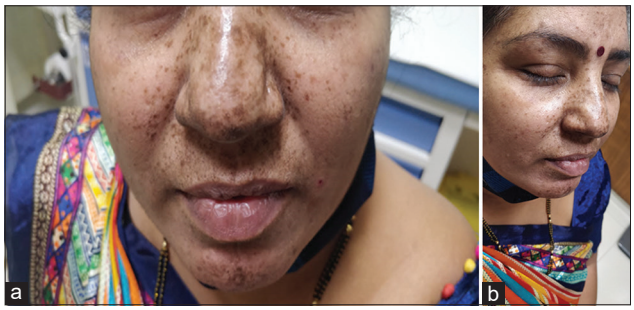

Figure 1: Centrofacial hyperpigmentation over tip, bridge (a) and alae of nose (b)

Figure 2: Reduction in the appearance of hyperpigmented patches on the centrofacial area over tip, bridge (a) and alae of the nose (b)

Acetaminophen is given initially for fever; if not effective, it is given in combination with tramadol or codeine. Skin rash is generally managed with saline compresses and emollients. Persistent non-healing ulcers on the genitalia and intertriginous areas and skin erosions resulting from ruptured bullous lesions can be managed by topical or systemic antibiotics. Most of the skin lesions resolve within 2 weeks with reversible post-inflammatory hypopigmentation.[5] It is recommended to prevent dehydration and physiotherapy is recommended in case of joint pains.[6] Various neurological complications associated with chikungunya have been described such as meningoencephalitis, myelitis, GBS, encephalitis, myelopathy, peripheral neuropathy, myeloneuropathy, and myopathy.[7]

CONCLUSION

Although chikungunya is a self-limiting disease, there should be familiarity with the cutaneous presentation of the infection early before the laboratory investigations are available as the disease itself, including the majority of the lesions, is self-limiting. Nose pigmentation is the most commonly seen maculopapular rash in the early stages of the chikungunya infection and is suggested as the Chik sign and its diagnosis will obviate the need for invasive diagnostic tests and aggressive therapeutic intervention.

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