Lyme Disease - A report of Atypical Cutaneous Sequelae

Sir,

Lyme disease is caused by Borrelia transmitted by ixodes tick and the global distribution of the disease corresponds to the prevalence of the transmitting agent.[1]

We report a pediatric patient who presented with erythema chronicum migrans along with acrodermatitis chronica atrophicans, which is usually seen in the adult population. Other unique feature being the distribution of lesions which was truncal against the usual extremities.

A 9-year-old girl presented with a history of insect bite about 6 months back. These insects were stuck on skin and had to be removed manually. It was followed by development of red itchy rash over the affected area. The itching resolved with topical medication and lesions healed with hyperpigmentation.

The general and systemic examinations revealed no abnormality. Dermatological examination revealed multiple polysized discrete hyperpigmented macules over trunk and upper limbs [Figure 1a and b]. Few of these lesions had a targetoid appearance with central area of dark brown hyperpigmentation surrounded by an area of light brown pigmentation [Figure 1a and b]; however, lesion over pubic area was atrophic [Figure 1c].

Biopsies from hyperpigmented lesions revealed perivascular polymorphous inflammatory infiltrate consisting of lymphocytes, histiocytes, and plasma cells in superficial and deep dermis [Figure 2a and b], whereas atrophic lesions showed less degree of perivascular infiltrate suggestive of early stages of acrodermatitis chronica atrophicans [Figure 2c].

Borrelia IgM antibodies were raised 4.5 U/mL (>1.1 is positive). Two-dimensional echocardiography, ECG, and nerve conduction studies were normal. The patient was given a 21-days course of Doxycycline 50 mg twice a day following which there was partial reduction in pigmentation. Patient has been kept under follow-up to look for any systemic sequelae.

Lyme borreliosis characteristically begins with skin lesions that expand at the sites of tick bite. This disease generally has three stages of progression, i.e. early localized, early disseminated, and chronic disseminated. Approximately 50% of untreated patients progress to disseminated disease. The spirochetes may persist in these organs even after months to years after the initial infection causing a chronic form of illness. Therefore, antimicrobial agents have been found to have a role in all stages of the disease.[2]

Lyme borreliosis presents with myriad of skin manifestations. Erythema chronicum migrans is the earliest lesion affecting all ages and is seen in 89% of patients.[3] The lesion resembles a bull's eye and hence also called target lesion. It can help in timely diagnosis and treatment.

Histopathological examination is often helpful in skin manifestations of Lyme borreliosis and should be done in clinically (and serologically) doubtful cases of erythema migrans or lymphocytoma and must be done in acrodermatitis.[4]

Multiple erythema chronicum migrans is commonly encountered in children, whereas acrodermatitis chronica atrophicans is common in adults and very rarely seen in children.[5] Our patient had postinflammatory marks of erythema chronicum migrans lesions along with lesions of acrodermatitis chronica atrophicans.

The intent of this case report is to expand clinician's horizon of atypical cutaneous presentations of a not so common disease.

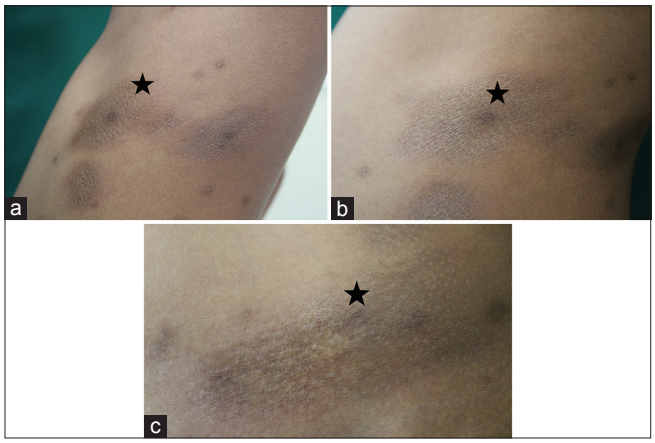

Figure 1: (a) Clinical picture of side of trunk (*Old lesion of erythema chronicum migrans). (b) Clinical picture of back (*Fading lesion of erythema chronicum migrans). (c) Clinical picture of abdomen (*Atrophic lesion - Acrodermatitis chronica atrophicans)

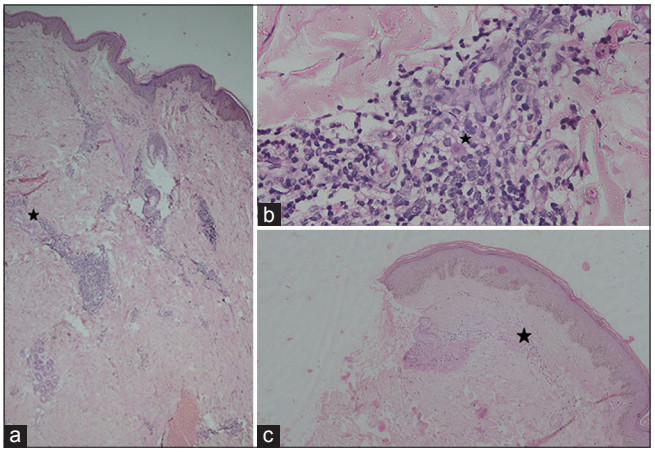

Figure 2: (a) H and E stain 100× (*Perivascular inflammatory infiltrate). (b) H and E stain 400× (*Lymphohistiocytic infiltrate). (c) H and E stain 100× (*Atrophy of dermis with loss of elastic fibres and pilosebaceous units)

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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