

Post-Kala-Azar Dermal Leishmaniasis – An Unusual Presentation

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Post-kala-azar dermal leishmaniasis can present as hypopigmented macules, erythematous to skin-coloured papules, nodules and photosensitive butterfly erythema on the face. We present a patient with disseminated annular lesions of post-kala-azar dermal leishmaniasis. The patient was treated with daily intravenous injections of sodium antimony gluconate for 120 days at a dose of 20 mg/kg body weight with complete clearance of lesions. Key words: annular; disseminated; sodium antimony gluconate.

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Post-kala-azar dermal leishmaniasis is mainly confined to the eastern part of India. Cutaneous involvement is usually in the form of hypopigmented macules, erythematous to skin-coloured papules and butterfly erythema of the face. We report an unusual case with disseminated annular lesions involving the face, neck, arms, back and thighs and muco-cutaneous areas.

CASE REPORT

A 26-year-old male patient presented with multiple, asymptomatic, skin-coloured, slowly progressive lesions on the face, neck, arms, back and thighs of 20 days' duration. Six months prior to the present episode, he developed high-grade fever, followed within 3–4 days by similar lesions on the face. He was treated with daily intramuscular injections for 19 days, the nature of which could not be ascertained. The fever and skin lesions subsided completely with these injections. He was asymptomatic for 2 months, after which he noticed a recurrence of the skin lesions, starting from the face and progressing to involve the neck, upper arms, back and thighs. Individual lesion/s also gradually increased in size.

Cutaneous examination showed prominent involvement of the forehead, nasolabial folds, chin and earlobes with mucosal lesions on the lower eyelid margin, the nasal mucosa and the lips (Fig. 1). The lesions were both discrete and grouped. They were either skin-coloured or mildly erythematous, indurated annular plaques, 0.5 cm to 1.5 cm in diameter, with central clearing, irregular in shape, soft and non-tender. Juicy looking papules, with a central dimpling were seen on the face, upper arms, back and thighs. In addition, bilateral discrete inguinal lymphadenopathy was seen. Spleen was enlarged, 4 cm below costal margin, firm and non-tender.

Investigations including haemogram, liver and kidney function tests, urine and stool examination, electrocardiogram and X-ray chest were normal. Skin biopsy revealed extensive epithelioid cell granulomas in the upper and mid dermis with scanty lymphocytes and a large number of plasma cells. Few intracellular, bipolar staining leishmania donovani bodies were also seen. Immunoperoxide staining showed 40% T₄ (helper) and 60% T₈ (suppressor/cytotoxic) subset of T-cells. In skin slit smears stained with Giemsa stain no organism could be demonstrated. Serum antibody testing for leishmania donovani was positive

in a titre of 1:1600 by indirect immunofluorescence test. A diagnosis of post-kala-azar dermal leishmaniasis was made and the patient was treated with daily intravenous injections of sodium antimony gluconate at a dose of 20 mg/kg/day.

After 30 injections, the patient showed more than 60% improvement of the skin lesions and partial regression of splenomegaly. After 120 injections the skin lesions had subsided completely leaving macular hypopigmentation. The spleen was just palpable below the costal margin. A repeat skin biopsy from the residual hypopigmented macules was unremarkable.

DISCUSSION

Post-kala-azar dermal leishmaniasis usually manifests 6 months to 5 years after an attack of visceral leishmaniasis. Three main types of lesions may be seen, the earliest being hypopigmented macules on the upper trunk, upper arms and



Fig. 1. Annular lesions of post-kala-azar dermal leishmaniasis on the face.

forearms. Subsequently, a photosensitive facial butterfly erythema and/or papules and nodules on the central part of the face may appear. Unusual variants like papillomatous, verrucous, hypertrophic, xanthomatous and fibroid type of skin lesions have been reported. Our case is an unusual and rare annular variant of post-kala-azar dermal leishmaniasis, mimicking granuloma annulare. Only one case of the annular variant of post-kala-azar dermal leishmaniasis has been reported in the literature way back in 1934 (1).

Dermal granulomas comprising mainly lymphocytes, macrophages and plasma cells in varying proportions have been described in post-kala-azar dermal leishmaniasis (2). Our patient showed a similar histology with a few intracellular leishmania donovani bodies. A definitive diagnosis of post-kala-azar dermal leishmaniasis can be made on demonstration of leishmania donovani bodies within the macrophages either by smear examination or by histology. However, these are seen in only about half of the cases of post-kala-azar dermal leishmaniasis (3).

The intramuscular route recommended by the World Health Organization causes pain and discomfort and increases the incidence of abscess formation. We find the intravenous route

much safer, effective, without any additional side effects and more acceptable to patients. Pentavalent antimonials interfere with the phosphorylation of adenosine diphosphate and guanine diphosphate causing a dose-dependent inhibition of protein for DNA and RNA synthesis. This leads to a decrease in the viability of leishmania (4). Other drugs that have been used for post-kala-azar dermal leishmaniasis include ketoconazole, amphotericin-B, allopurinol and rifampicin (5).

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