Cutaneous leishmaniasis

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ABSTRACT

Cutaneous leishmaniasis (CL) is uncommon in Nepal. Sporotrichoid pattern is further less common presentation. Here we report a case of a 41 year old male working in Saudi Arabia who presented in our OPD with multiple nodules and ulcers in sporotrichoid distribution in upper extremities of four months duration and was subsequently diagnosed as a case of cutaneous leishmaniasis. This case highlights the importance of having high index of suspicion of cutaneous leishmaniasis in patients who have worked in Middle East presenting with non healing ulcer.

Keywords: leishmaniasis, sodium stibogluconate

INTRODUCTION

Leishmaniasis is a parasitic infection caused by protozoans belonging to genus Leishmania and is transmitted by bite of certain species of sandfly (genus Phlebotominae). Leishmaniasis in humans is classified as old world (caused by L. major, L. tropica, L. aethiopica and L.donovani infantum) and new world (caused by L. mexicana, L brasiliensis). It is also classified as visceral (commonly known as kala-azar) and cutaneous leishmaniasis.

Although visceral leishmaniasis is common occurance in Nepal in the Terai region, only a few cases of cutaneous leishmaniasis have been reported so far. In this case report, we are presenting a case of cutaneous leishmaniasis for its rarity and also for interesting sporotrichoid pattern.

Case history

A 41 year old man form Chitwan district of Nepal, working in Saudi Arabia for last 15 years presented with painless erythematous plaque on the right forearm and left arm since 4 months. The initial lesion appeared on the right forearm as single erythematous papule that was asymptomatic but progressively increasing in size. It got infected after about 1 month with discharge of pus and later it ulcerated. Multiple skin colored nodular lesion appeared in a linear distribution away from the original lesion which were slightly painful and also tender. Another plaque appeared on the left arm after about 2 months of initial lesion which was also asymptomatic but progressively increasing in size. There was no history of cough, fever or weight loss.

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Also no history of trauma was present. On examination there were two erythematous plaques one on right forearm and another on left arm, of size of 4×2 cm and 2×1.5 cm respectively(Figure-1, Figure-2). They were irregular in shape with well defined border and irregular margin. There were multiple small nodules present on the surface of plaques and also multiple skin colored nodules present in linear distribution 2 cm away from the original lesion which were 0.5×0.5 cm with slightly tender to touch. Diascopy was negative for the apple jelly nodules.

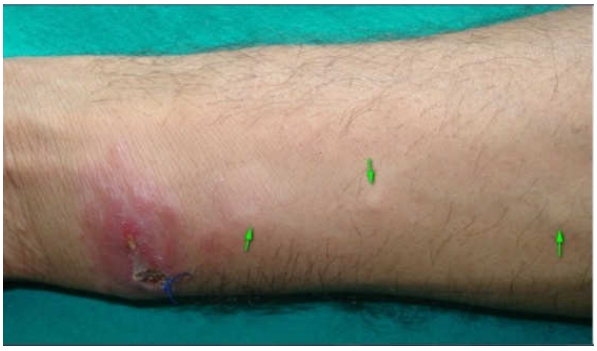

Fig. 1. Erythematous plaque with surface ulceration & crusting and satellite nodules (green arrow)

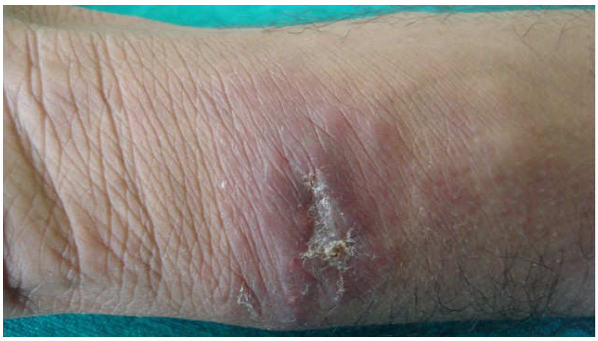

Fig. 2. At 12 days follow up: erythema & induration lessened with healing of ulcer

Investigation showed total count of 7800 WBC/cu.mm with N – 75.0%, L – 25.0%. Haemoglobin was 15.0 gm %. ESR- 10 mm/hr, Mantoux test was negative.

Histopathology report showed epidermis with focal pseudoepitheliomatous hyperplasia, underlying dermis showed ill defined diffuse epitheloid cell granuloma admixed with lymphocytes and plasma cells. Plenty of LD bodies were seen within the macrophages and in extracellular space.

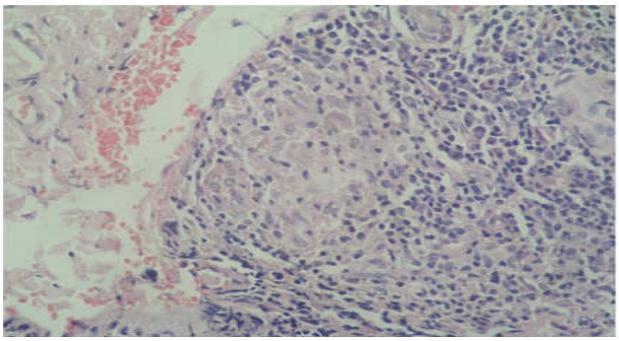

Figure-3, Well defined granuloma with epitheloid cell, macrophages, plasma cells with surrounding fibroblasts (40x10 magnification, H & E stain)

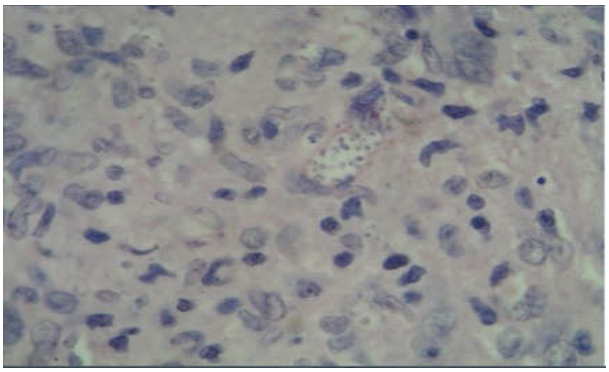

Figure-4. plenty of LD bodies inside macrophages (100x10 magnification, H & E stain)

Patient was started on intramuscular injections of sodium antimony gluconate 20 mg/kg body weight scheduled daily for 21 days. At 12 days follow up, his lesions had flattened with erythema lessened and tenderness in the nodules also disappeared. Patient returned back to the Middle East to join his job and hence further follow up could not be arranged.

DISCUSSION

Leishmaniasis is a disease caused by an intracellular protozoa parasite, and it affects as

many as 12 million people worldwide, with 1.5-2 million new cases each year. The vast majority of cutaneous leishmaniasis cases occur in Afghanistan, Algeria, Brazil, Peru, Iran, Iraq, Syria, and Saudi Arabia, whereas most visceral leishmaniasis (VL) cases occur in India, Bangladesh, Nepal, Brazil, and the Sudan[1]. VL is endemic in certain terai districts of Nepal. However, only a few cases have been reported as cutaneous leishmaniasis. The first case was reported in 2006 from Nepal[2]. It is especially common in resident who work in the Middle East where the incidence is high. In this case the patient had been working in the UAE for last 15 years and returned just 5 months back. The incubation period ranges from few days to many years.

Transmission of disease to humans occurs through the bite of an infected sandfly. The lesion commonly occurs on the exposed parts of body like face and extremities. In our case also the lesion occurred on the limbs. The clinical stages pass through papule, nodule, ulceration, crusting and finally healing with scarring. Sporotrichoid pattern is a rare but recognized presentation of cutaneous leishmaniasis especially in new world than old world cutaneous leishmaniasis[3]. In our best of knowledge, no such case has been reported so far from Nepal.

Since cutaneous leishmaniasis is an uncommon occurance in Nepal, high index of clinical suspicion is required to detect cutaneous leishmaniasis. Diagnosis of cutaneous leishmaniasis requires demonstration of the amastigotes in Giemsa stained smears from infected skin by direct microscopy, intracellular amastigotes in the dermis of H & E (Haematoxylin and Eosin) stained sections from biopsy specimen, presence of leishmanial granulomas in the dermis in H and E specimens, growth of promastigotes in Nicolle-Novy-macNeal (NNN) culure medium from lesional specimens and demonstration of Leishmanial DNA by PCR. The species are distinguished by isoenzyme pattern and DNA analysis. In this case, histopathological findings were suggestive of cutaneous leishmaniasis.

Though the disease may undergo spontaneous resolution depending upon the immunity of the patient, the duration is not predictable in each individual. Multiple treatment options are available including parenteral (e.g. pentavalent antimonials, amphotericin B, IFN-γ) and oral medications. Also local therapies for some forms of cutaneous leishmaniasis are available like (1) cryotherapy, (2) infiltration of sodium stibogluconate at 0.3-0.8 mL, (3) local heat therapy at 40-42°C, and (4) various topical paromomycin preparations. Pentavalent antimony (sodium stibogluconate or meglumine antimonate) remains the mainstay of treatment in cutaneoos leishmaniasis. The recommended dose of sodium antimony gluconate is 20 mg/kg body weight given as IV, IM and or intralesional injections on daily or weekly basis. Cure rates for pentavalent antimony are 90-97%.

In our case the patient was treated with daily IM injections and he had showed significant improvement with resolution in erythema with induration. The satellite nodules had also started to regress with subsidence of tenderness. He was advised for continued follow up in Saudi Arabia. Since there a lot of Nepalese workers in the Middle East, cutaneous leishmaniasis may become a common finding in returned workers, so the clinicians should be aware of this disease.

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