Case Report

CUTANEOUS LEISHMANIASIS: AN EXPERIENCE AT UMDC

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ABSTRACT:
Leishmaniasis is caused by single-cell parasites of the genus Leishmania. More than 10 different Leishmania species can cause human diseases. The two main clinical manifestations of leishmaniasis are:
• Visceral leishmaniasis
• Cutaneous leishmaniasis

This report is presented to highlight the incidence of cutaneous leishmaniasis in non-endemic areas like Faisalabad.

KEY WORDS: Leishmania, endemic, cutaneous, amastigote.

INTRODUCTION:
Leishmaniasis is a protozoal infection of the tropical and subtropical regions of the world. It is transmitted by the bite of infected sandflies. Leishmaniasis is prevalent within and along the borders of Afghanistan, India, Islamic Republic of Iran and Pakistan. In Pakistan initially the disease was once endemic in Baluchistan, has become highly prevalent in Sindh, Khyber Pakhtoonkha and parts of Punjab. In Punjab it was reported in few cities like Multan, Bahawalpur and Sargodha. Now new cases are emerging in industrial cities like Faisalabad. We present a case of an 11 year old boy with ulcer on lateral nasal wall extending just below the medial canthus and upper aspect of left cheek. This was a referred case from Dermatology Department of Madina Teaching Hospital (MTH), where he came to get second opinion.

CASE REPORT:
An 11 yr old boy presented at the department of dermatology MTH Faisalabad. The boy wanted to get a second opinion regarding a non healing ulcer on his face which was present for a couple of months. The boy was a resident of Warispura, Faisalabad and had no history of travelling to endemic area. He had a slowly growing lesion on face for last four months, for which he was put on antituberculous therapy on account of a skin biopsy report that showed some chronic granulomatous disease. Tuberculosis was considered to be the likely possibility keeping in view it’s high prevalence rate in our country. The boy did not respond to the treatment for Lupus vulgaris (skin TB) for last 3 months. Instead of that the ulcer continued to enlarge and involved a large area of his left cheek along with left lateral wall of nose.

After examining the patient at MTH he was sent to the pathology department of University Medical & Dental College (UMDC) for direct skin smears and cytologic examination. On examination there was an ulcerative lesion present on left cheek which was layered by yellowish crust like material (Fig 1 & 2). The margins of the ulcer were markedly erythematous with superior extension of the redness below medial canthus of left eye. The erythema was anteriorly extending upto the lateral nasal walls and anterior nares. Under aseptic measures maximum amount of tissue juice was obtained by scraping the ulcer gently. Blood free smears were made and stained with Giemsa and H & E stains. Besides that the boy was also asked to provide the previous tissue block of the biopsy which was taken 4 months back.
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CUTANEOUS LEISHMANIASIS:

Figure 1: The ulcer on the face layered with crusts and exudates

Figure 2: Extensions of ulcer & periulcer erythematous area

Figure 3: Microphotograph revealing PAS stain of the tissue showing normal skin appendages and occasional non-caseating granulomas multinucleated giant cells

Figure 4: PAS stained section demonstrating macrophages laden with LD bodies on histological examination

Figure 5: Direct smear demonstrating the macrophage cytoplasm stuffed with LD bodies (amastigote forms).

Figure 6: Photograph of the patient after receiving therapy
MICROSCOPY:
Deeper levels were obtained from the paraffin embedded tissue block and stained with H&E and PAS (Periodic Acid Schiff) stain. These deeper levels & recuts revealed multiple non-caseating granulomas along with multinucleated giant cells rimmed by epitheloid cells collar. PAS stain revealed the presence of macrophages which were loaded with LD bodies (amastigote form of Leishmania) (Figure 3 & 4). While the smears made and stained at pathology department UMDC also showed foamy cells laden with characteristic LD bodies with a larger nucleus and smaller kinetoplast (Figure 5). This was pointing towards cutaneous leishmaniasis rather than Lupus vulgaris. The patient was treated with intramuscular meglumine antimoniate with complete healing of the ulcer in 3 weeks.

DISCUSSION:
The most common form of leishmaniasis is cutaneous leishmaniasis. Cutaneous leishmaniasis is caused by Leishmania (L.) major, L. infantum, and L.tropica. Tourists and workers from the endemic areas have increased risk of cutaneous leishmaniasis4,5.

Cutaneous leishmaniasis is found in all provinces of Pakistan. Percentage of the cases reported is in descending order describing as Baluchistan, Khyber Pakhtunkhwa, Sindh& Punjab. Now the cases of cutaneous leishmaniasis are increasing in number from the province of Punjab1,2. Our case was also a victim who was a resident of Faisalabad. We had three cases of leishmaniasis during the previous one and half year but unfortunately due to non-availability of proper clinical information they cannot be described here in detail. The vector sand fly is found in all provinces of Pakistan. The diagnosis of leishmaniasis is confirmed by detection of parasites in the smear-specimen of cutaneous lesions, the lymph node, bone marrow, spleen or of the spinal-fluid6. Histopathological findings are granulomas consisting of lymphocytes, histiocytes and plasma cells with epitheloid cells. Frequently Leishmania can be found within the histiocytes and cultivated in Nicolle-Novy-Mac Neal- (NNM-) medium for upto 40% of cases5. Leishmania can also be detected by serological tests (indirect immuno-flourescence and enzyme-linked immunosorbant assay7. The highest sensitivity and specificity can be reached by polymerase chain reaction using the isolated DNA.7

Multiple treatment options are used throughout the world for cutaneous disease. Beside topical and parenteral medications (, liposomal amphotericin B and some other), local therapy options for cutaneous leishmaniasis include (1) cryotherapy, (2) infiltration of lesion with sodium stibogluconate,(3) local heat therapy, and (4) various topical paromomycin preparations5,8.

CONCLUSION:
Cutaneous leishmaniasis which was previously restricted to the endemic areas and rural areas is now emerging in big cities of Pakistan so any skin ulcer specially on exposed areas should be ruled out for cutaneous leishmaniasis. Thus the precautionary measures must be adopted to minimize the chances of high prevalence.

REFERENCES: