Case Report

Ulcerative penile leishmaniasis in a child

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ABSTRACT

Penile ulcers may be caused by several different agents. Rarely, cutaneous leishmaniasis may also be accompanied by penile ulcers. We report a five-year-old boy with who had an ulcer on the glans penis. Smears from the ulcer demonstrated amastigotes, biopsy showed histopathological features of leishmaniasis and Leishmania was grown in culture. Treatment with meglumine antimoniate injections led to improvement.

Key words: Cutaneous leishmaniasis, penile ulcer, pediatric

INTRODUCTION

Cutaneous leishmaniasis is a skin disease caused by flagellated protozoa from the *Leishmania* genus, which are transmitted by sand fly (*Dipteran*) bites.[1, 2] Cutaneous leishmaniasis is more frequently seen on exposed body areas such as the face, eyelids, forehead, hands, wrists and, occasionally, the legs.[2] The involvement of the penis is rare, although there are a few previous reports.[3-5] We report a five-year-old with cutaneous leishmaniasis of the penis.

CASE REPORT

A five-year-old boy presented with an asymptomatic and persistent ulcer on his penis of six months duration. He was treated with topical steroids, anti-bacterial, anti-scabetic and anti-viral preparations at different times; however, none of these proved effective. There was no family history of similar symptoms.

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On examination, a 2 × 3 cm ulcer with a hemorrhagic crust was seen on the glans penis [Figure 1]. There was mild, painless enlargement of the bilateral inguinal nodes. The C-reactive protein, erythrocyte sedimentation rate, complete blood counts and biochemistry results were normal. Potassium hydroxide (KOH) mount and Tzanck smear prepared from the ulcer discharge were negative.

The Venereal Disease Research Laboratory (VDRL) test, Fluorescent Treponemal Antibody Absorption (FTA-ABS) test and serological tests for herpes simplex virus, cytomegalovirus, Epstein-Barr virus (EBV), *Chlamydia trachomatis* and human immunodeficiency

Figure 1: A 2 × 3 cm ulcer with hemorrhagic crust on the glans penis

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virus were negative. Giemsa stained smear showed amastigote forms suggestive of *Leishmaniasis* [Figure 2]. Promastigotes forms of the parasite were observed in the Novy-MacNeal-Nicole (NNN) culture medium, and skin biopsy from the lesion showed features compatible with cutaneous leishmaniasis [Figure 3]. The patient received two doses of intramuscular meglumine antimoniate 20 mg/kg, 20 days apart. No complications were noted during treatment. At the 20-day follow-up appointment, the lesion appeared to be healing with a mild scar [Figure 4].

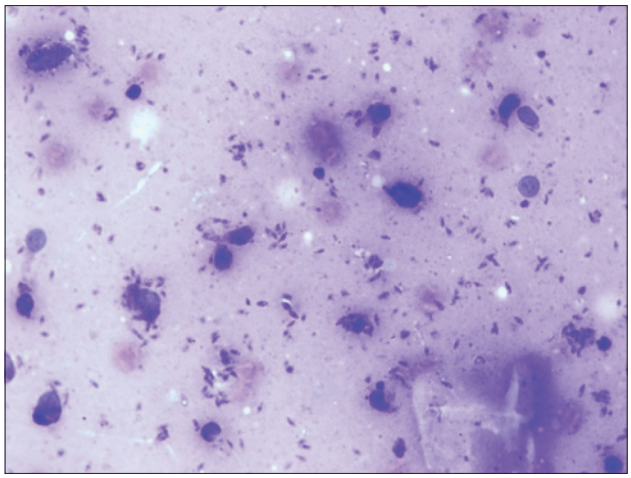

Figure 2: Amastigotes seen in a smear from the ulcer (Giemsa, x100)

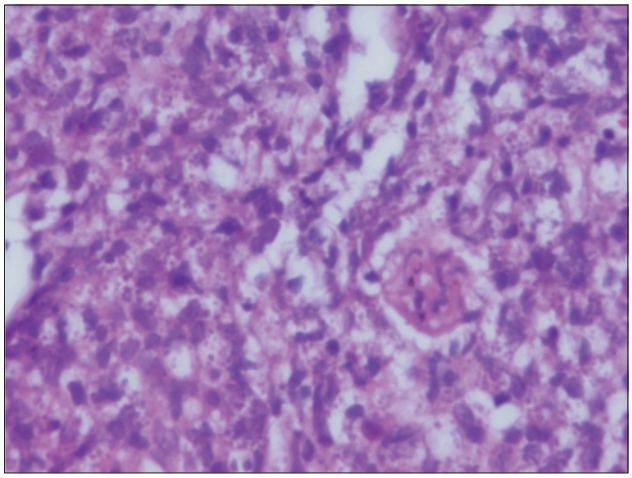

Figure 3: Histopathology of the skin punch biopsy showing numerous macrophages distended with amastigotes (H and E, x1000)

Figure 4: Decrease in size of the ulcer after treatment

DISCUSSION

The etiopathogenesis of penile ulcers includes trauma, viral, bacterial, fungal and parasite infections, neoplasms, auto-immune bullous diseases, immune and systemic diseases, drug reactions and inflammatory and papulosquamous diseases. However, the majority of penile ulcers are caused by sexually transmitted diseases, including syphilis, genital herpes virus infection, lymphogranuloma venereum and donovanosis. Furthermore, non-venereal infections such as candida, Epstein Barr virus, bacteria, parasitic and mycobacterial infections may also cause penile ulcers. Syphilitic chancres are painless and persistent; whereas, ulcers and vesicles caused by genital herpes are painful with a high degree of inflammation.[6] *Haemophilus ducreyi* causes soft chancre, characterised by painful ulcers with tender lymphadenopathy. As in this case, the great majority of penile lesions are ulcers that are painless and slowly progressive.[5,7]

Nonsteroidal anti-inflammatory drugs, sulphonamides, penicillin, tetracyclines, anti-epileptics and anti-malarials may also cause erosive and ulcerative drug reactions in the genital mucosa. Inflammatory and papulosquamous diseases such as psoriasis, lichen sclerosus, angiokeratomas, lichen nitidus, lichen planus, Behçet's disease, Reiter's syndrome, pyoderma gangrenosum, pemphigus and inflammatory bowel disease may also involve the penile area. Additionally, erythroplasia of Queyrat, squamous cell carcinoma, basal cell carcinoma, extramammary Paget's disease, lymphoma and leukaemia are neoplastic diseases that cause penile ulcers. Rarely, penile ulcers related to mechanical, chemical, thermal and factitial reasons may also be seen.[6-8]

The diagnosis of cutaneous leishmaniasis is frequently made clinically. Yet, the demonstration of parasites using laboratory methods is important in terms of ascertaining a diagnosis.[9,10] The demonstration of amastigotes on Giemsa stain of smears taken from the edge of lesions is the simplest and most effective

diagnosis for this disease.[10] The demonstration of plasma cells and *Leishmania donovani* inside macrophages in the dermis by histopathological examination is another diagnostic tool often employed.[11] In our case, the amastigote form of the parasite was seen in the Giemsa smear and the promastigote form was seen in the culture medium.

In conclusion, cutaneous leishmaniasis should be considered in patients who are travelers to or residents of highly endemic regions in the presence of refractory, chronic lesions on exposed or unexposed areas of the body.

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