CASE REPORT

ORAL ULCER AS AN UNUSUAL FEATURE OF VISCERAL LEISHMANIASIS IN AN AIDS PATIENT

PRAMOD KUMAR, P. K. SHARMA, R. K. JAIN, R. K. GAUTAM, M. BHARDWAJ*, H. K. KAR

ABSTRACT

Leishmaniasis, a globally prevalent parasitic disease, occurs in three forms, viz., visceral, cutaneous and mucocutaneous. It is transmitted by female Phlebotomus sandflies. Human immunodeficiency virus (HIV) infection is increasing worldwide, and several reports indicate a rising trend of VL / HIV co-infection, modifying the traditional anthroponotic pattern of VL transmission. India is one of the countries having the largest burden of leishmaniasis; nevertheless, there are very few HIV / leishmania co-infection cases reported so far. We report a 35-year-old homemaker infected with the human immunodeficiency virus; she presented with an oral ulcer. The investigations carried out on her revealed that she was afflicted by visceral leishmaniasis, and the oral ulceration was a part of the same. This is only the second such case from the Indian subcontinent, and more significantly from a non-endemic area.

Key words: Acquired immunodeficiency syndrome, human immunodeficiency virus, leishmaniasis oral ulcer

INTRODUCTION

Leishmaniasis is a group of infections of the viscera, skin and mucous membrane, caused by protozoa of the genus *Leishmania* that is transmitted by sandflies of the genera *Phlebotomus* (old world leishmaniasis) and *Lutzomyia* (new world leishmaniasis). Promastigotes in the proboscis of a female sand fly are introduced into the skin of a vertebrate host during a blood meal. The promastigotes invade the reticuloendothelial cells, transform into amastigotes, multiply within the phagolysosomes and invade the other reticuloendothelial cells.

Clinically, leishmaniasis is seen as (1) visceral leishmaniasis (VL) - caused by *Leishmania donovani*, *L. infantum, L. chagasi*, leading to severe systemic infection, which may be accompanied by cutaneous manifestations; (2) cutaneous leishmaniasis - caused by *L. tropica, L. aethiopica and L. infantum,* in which there are cutaneous papules or nodules, and (3) mucocutaneous leishmaniasis - caused by *L. Braziliensis*, a zoonotic disease. The latter is characterized by primary cutaneous lesions that may be followed by destructive nasopharyngeal lesions several months later.[1]

Departments of Dermatology and *Pathology, Dr. Ram Manohar Lohia Hospital, New Delhi, India

Correspondence
Dr. Pramod Kumar, Deptt. of Dermatology, Post Box-17, P.C. 319, Sultanate of Oman,
E-mail: kumarpramod5@rediffmail.com

Acquired immunodeficiency syndrome (AIDS) is characterized by numerous opportunistic infections. The association of AIDS with VL as an opportunistic infection has been frequently reported from the Mediterranean region.[2] Cases of VL in HIV patients have been reported[3-5] earlier from India, though only one with oral mucosal lesions so far.[6]

We report a case of VL with mucosal ulcer in an AIDS patient who belonged to a non-endemic area of western Uttar Pradesh in India.

CASE REPORT

A 35-year-old homemaker, resident of Etah district in western Uttar Pradesh, presented with 6 year's history of fever, diarrhea with gross loss of weight; an ulcer on the undersurface of the tongue for 1 month and bleeding per rectum for 4 days. She was referred to the Dermatology Department after she tested positive for HIV 1 and 2.

The fever was low grade and intermittent in character. The patient had frequent painless watery stools. Bleeding per rectum was spontaneous, painless and fresh and mixed with stool. She had been treated for suspected abdominal tuberculosis a year ago. The oral ulcer under the tongue was painful and had been increasing in size. It bled on touch. The patient had received blood transfusion 10 years ago during cesarean delivery of her second child. The history was not suggestive of extramarital sexual relation or intravenous drug abuse either by the patient or her spouse.

The patient was pale and emaciated. There was a single well-defined ulcer 3 cm × 2 cm in size on the fraenulum of tongue with raised rolled and irregular margins. The floor of the ulcer was clean but bled on touch. The base was firm and could be clearly felt. In addition, the dorsal aspect of the tongue showed adherent white plaques with underlying erythema. Bilateral submandibular and submental lymph nodes were enlarged, discrete, firm, nontender with smooth surface and nonadherent to the overlying skin. Per speculum examination of the vagina did not reveal any significant finding. On per rectal examination, the finger was stained with fresh blood. Liver surface was smooth and nontender and was enlarged 2 cm below the costal margin. Spleen was smooth, firm in consistency and was enlarged 1.5 cm below the costal margin.

Ocular examination revealed retinal hemorrhage with white retinal necrosis in the left eye.

Serological test (ELISA) for leishmaniasis was highly positive. Chopra's aldehyde test was negative. Potassium hydroxide 10% preparation of the scrapings from the tongue showed candida.

Her blood tests revealed that her hemoglobin

was 8.8 gm percent; total leukocyte count, 8,800 per cu. mm; polymorphs, 84 percent; lymphocytes, 15%; eosinophils, 01%; platelet count, 1.2 lakhs per cu. mm. Bleeding time, clotting time, blood glucose, urea, electrolytes, immunoglobulin profile, liver and kidney function tests were within normal range. V. D. R. L. was nonreactive. ELISA for HIV was positive for HIV 1 and 2 and was confirmed by western blot test. Her CD_4 and CD_8 counts were 12 per cu. mm and 18 per cu. mm respectively.

The skiagram of chest, electrocardiogram and colonoscopy did not reveal any abnormality. Ultrasonography of the abdomen confirmed mild hepatosplenomegaly.

Fine needle aspiration cytology from submandibular lymph nodes showed macrophages studded with amastigote form of *leishmania* and a few lymphocytes. Biopsy from the edge of the sublingual ulcer demonstrated macrophages full of amastigote form of *leishmania* on hematoxylin and eosin preparation. There was no evidence of malignancy in the tissue, and staining for acid fast bacilli was negative. Patient refused permission for liver, spleen and bone marrow biopsy. She died 3 days after admission.

DISCUSSION

VL is being reported with increased frequency in HIV patients. Investigators from Spain have reported 16 cases of HIV disease, in which the patients developed VL with typical clinical presentation.[2]

Fever, diarrhea and loss of weight are the presenting features of VL. Hepatosplenomegaly, anemia, hemorrhagic manifestations, lymphadenopathy are the other signs in patients with VL.[7] This case had fever, diarrhea and loss of weight for the past 6 years. She also had hepatosplenomegaly, lymphadenopathy, bleeding per rectum and anemia.

The white retinal necrosis heavily pointed towards cytomegalovirus retinitis. The possibility of other causes of oral ulcer in HIV patients, like herpes simplex, aphthous ulcers and atypical *Mycobacterium tuberculosis*, was excluded by history and clinically by Tzanck smear examination and histopathology respectively.

Although the course of leishmaniasis with HIV has not been determined as yet, extensive gastrointestinal infiltration by *leishmania* can cause malabsorption and thus emaciation of the patient.[8] Death ultimately occurs in 3 to 20 months in untreated cases of leishmaniasis. The history of blood transfusion (BT) 4 years prior to the onset of these symptoms and keeping in mind that it takes 15 to 20 years for AIDS to manifest itself completely,[9] it is justified to presume that the patient acquired HIV infection by mode of BT. Professional blood donors are migrant people from endemic areas; with this in mind, VL can very well be presumed to have been acquired through transfusion in this case, in the absence of any focal outbreak in the area or absence of travel to endemic areas. It is common knowledge that the course of *leishmania* spread depends on

cellular immunity of the host and development of hypersensitivity to the parasite antigen; thus, the HIV status perhaps contributed to the *leishmania* spread as and when infection occurred during the period of 10 years. Furthermore, the progression of disease has to be related to the development of suppressor T lymphocyte in the host. Thus, it seems very likely that this patient did suffer from both HIV disease and VL at the same time.

VL could have mimicked the symptoms and signs of abdominal tuberculosis, for which she got the treatment inadvertently without any improvement. The frequency, morbidity and presentation of infections vary with the degree of immunosuppression of the patient, as well as the prevalence of infectious organisms in a given individual or environment.[8]

Oral ulceration in this patient as one uncommon clinical manifestation of VL, along with splenomegaly and lymph node enlargement, is indeed a very significant presentation along with HIV infection. Secondly, BT as a mode of HIV transmission still exists in highly populated countries like India. VL with oral ulceration was the first presentation of HIV in this case, and to the best of our knowledge only one such case has been reported earlier from India.[6] This case belonged to the endemic area of Bihar, and there were nodular lesions, which showed dense cellular infiltrates with lymphocytes, histiocytes and plasma cells on histopathology. Our case was from a non-endemic area and had an oral ulcer, which had macrophages full of *leishmania* amastigotes. Milian has reported a similar case, in which the patient was ex-intravenous drug abuser and suffered from HIV, hepatitis C and oral leishmaniasis.[10] His case presented with a painful vegetating tumor on the hard palate. Lesional biopsy confirmed the diagnosis of leishmaniasis; bone marrow aspirate, however, was negative.

Our case belonged to a non-endemic area, thus highlighting the fact that leishmaniasis can manifest in an unusual manner in HIV-infected people and may at times be the only presentation of HIV disease, even in non-endemic areas. The overlapping geographical distribution of VL and AIDS is increasing due to (a) spread of AIDS pandemic in suburban and rural areas of the world and (b) the simultaneous spread of VL from rural to suburban areas.

The incidence of VL among Indian AIDS cases might be higher but remains undetected for want of proper laboratory support in interior areas. The health care providers should have a high index of suspicion for VL in all HIV-infected cases with lymphadenopathy and hepatosplenomegaly.

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