Abstract

Hansen’s disease is caused by *Mycobacterium leprae*. The disease is known to involve the visceral organs including the testis apart from the skin and nerves in the lepromatous pole of leprosy due to widespread hematogenous dissemination of lepra bacilli. Furthermore, there can be testicular pain during the type 2 reaction in Hansen’s disease. Filariasis is a disease caused by the parasitic nematode, *Wuchereria bancrofti*. This infection most commonly results in lymphedema and secondary vaginal hydrocele with an associated epididymo-orchitis. Acute epididymo-orchitis is either seen in the acute phase or as a part of secondary bacterial infections. The particular interest of this paper is to report the case of Hansen’s disease who presented with testicular pain and posed a diagnostic dilemma when his pain did not respond to the standard mode of treatment and an alternate rare diagnosis was sought. This case report also emphasizes the need of reconsideration of diagnosis when the patient is not responding to standard therapy.

Keywords: Filariasis, Hansen’s disease, reaction, testicular pain

Introduction

Leprosy is a chronic infectious disease caused by *Mycobacterium leprae*. Testicular involvement is generally seen in lepromatous pole of leprosy, where due to widespread hematogenous dissemination of lepra bacilli, there is involvement of the visceral organs apart from skin and nerves. Thus, lepromatous infiltrates are reported in superficial nerves, lymph nodes, liver, spleen, bone marrow, and interestingly also the testes. Patients with lepromatous and dimorphous leprosy are known to develop testicular and epididymal changes which can lead to infertility, sexual impotence, and gynecomastia. Furthermore, pain is commonly seen in type 2 reaction in Hansen’s disease.[1,2]

Lymphatic filariasis is a tropical infection most commonly caused by *Wuchereria bancrofti* and less often by the Brugia species. The acute manifestations of lymphatic filariasis are typically characterized by retrograde adenolymphangitis, with the inguinal, axillary, and epitrochlear nodes being most commonly involved.[3] In *W. bancrofti* infection, the male urogenital tract is frequently affected and is expressed clinically as funiculitis, epididymitis, and/or orchitis.[4]

Here, we report an unusual case of Hansen’s disease who presented with an acute scrotum secondary to genital filariasis. Probably, this is one of the few cases where both the causes of orchitis were present simultaneously and posed a diagnostic dilemma.

Case Report

A 37-year-old male patient, a resident of Dhanbad, Jharkhand, and a diagnosed case of borderline lepromatous Hansen’s disease on regular follow-up, was being treated with multidrug therapy (multibacillary) for the past 6 months. The first 6 months was uneventful with no episode of any reaction. He was tolerating therapy well with near-complete resolution of initial patches. There were no paralytic, anesthetic, or specific deformities.

After 6 months of therapy, the patient developed sudden onset pain in the right arm and the left side of neck along with pain in both the testes. At the same time, the patient also started developing fever and joint pains; however, there were no red raised evanescent swellings over the body and no history of trauma, stress, or any infections. On examination, ulnar
nerve (right) was Grade-1 thickened and Grade-2 tender. Pain over the left side of the neck was corresponding to the left greater auricular nerve. Both the testes were tender on palpation. There was no tenderness in the epididymis and no palpable mass in the testes.

In view of neuritis and constitutional symptoms, the patient was diagnosed as the case of type 2 reaction and was started on tapering doses of tablet prednisolone at 1 mg/kg. Pain and tenderness along the ulnar nerve (right) and greater auricular nerve (left) reduced over the next 5 days; however, the testicular pain persisted despite 10 days of steroids.

The testicular pain was reevaluated and an alternate diagnosis was sought for the cause of pain. A thick blood smear was sent from a midnight blood sample to exclude genital filariasis. The slide revealed the presence of numerous microfilariae. The patient was diagnosed as a case of filarial epididymo-orchitis. The patient was started on tablet diethylcarbamazine at a dose of 50 mg OD on day 1, 50 mg TDS on day 2, and 100 mg TDS on day 3, followed by 100 mg QID for a total of 14 days. The patient had symptomatic relief with a decrease in testicular pain within 3–4 days of starting treatment and completely resolved after a fortnight.

**Discussion**

*M. leprae* has a predilection for temperatures lower than the body temperature and therefore readily multiplies in the testes. Lepromatous orchitis which includes atrophy of the testes is a fairly common condition in patients with lepromatous leprosy (LL). During the acute phase, there can be painful swelling of the testes. The involvement of the seminiferous tubules can also affect spermatogenesis and lead to sterility. Type 2 reaction or erythema nodosum leprosum in leprosy is an immune complex-mediated reaction mediated by various cytokines such as interleukin-1 and tumor necrosis factor-alpha and represents the body’s reaction to substances released by the destroyed bacilli. It is manifested by sudden worsening, especially during treatment in the LL individuals and more rarely in borderline lepromatous (BL) patients. There are general symptoms, such as fever, malaise, myalgia, edema, arthralgia, and lymphadenomegaly. Symmetrically distributed evanescent tender subcutaneous nodules may be seen. Neuritis and internal organ involvement may also occur. Testes involvement can also be seen as a visceral involvement which can manifest in the form of acute testicular pain.

Filariasis affects >120 million people globally with the greatest prevalence in Asia, Africa, and the Western Pacific. Acute epididymo-orchitis is seen either in the acute phase of the infection or due to secondary bacterial infections. There is a paucity of data regarding testicular filariasis.

The intent of this case report is to expand clinicians’ horizon of testicular pain and swelling and increase awareness of a rare etiology of orchitis. This case highlights the importance of reconsidering the diagnosis if the patient is not responding to the standard therapy. In the above-mentioned case, the entire gamut of symptoms were attributed to the reaction in Hansen’s disease, and accordingly, he was managed with tapering doses of systemic steroids. Since the patient did not show any improvement, the diagnosis was reconsidered and a rare cause of testicular pain was sought. Physicians should be aware that every testicular pain in Hansen’s disease is not necessarily due to reactions and one should keep an open mind for other causes as well.

**Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) have/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.
Conflicts of interest

There are no conflicts of interest.

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