ORIGINAL RESEARCH PAPER

Pathology

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AN UNUSUAL PRESENTATION OF LEPROMATOUS LEPROSY AS INGUINAL LYMPHADENOPATHY

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ABSTRACT

Background: Leprosy is a chronic granulomatous inflammatory lesion caused by Mycobacterium Leprae with usual manifestations on skin, peripheral nerves, upper respiratory tract and testis with rare lesions in lymphnodes. Involvement of lymphnode without cutaneous and nerve lesions is very rare.
Methods: Herewith, we are reporting a case of lepromatous leprosy, involving the inguinal lymphnodes with no cutaneous or nere lesions.
Results: The inguinal node was sent for histopathological examination which confirmed lepromatous leprosy. On further examination, patient had no cutaneous or nerve lesions. As the patient had fever, he was put on ofloxacin and he developed painful nodules in the legs and arms - clinically appearing like Type 2 lepra reaction. This skin lesion was biopsied and microscopic appearance with special stains confirmed lepromatous leprosy.
Conclusion: This highlights the unusual presentation of leprosy and hence leprosy should be considered by the clinicians and pathologists as one of the differential diagnosis of lymphnode enlargement.

INTRODUCTION:

Leprosy is a chronic inflammatory granulomatous disease caused by Mycobacterium Leprae and presents as a spectrum of clinical manifestations from polar tuberculoid to borderline tuberculoid to mid borderline to borderline lepromatous to polar lepromatous disease, which is associated with an evolution from asymmetric localised macules and plaques to nodular and indurated symmetric generalised skin manifestations and increasing bacterial load with loss of leprae specific cellular immunity[1].

However in any part of spectrum of clinical manifestations, usually skin involvement lesions are seen along with nerve involvement lesions or with involvement of testis and respiratory tract with lymphadenitis. However this disease presenting as lymphadenopathy only without skin lesions is extremely rare.Prevalence of leprosy in India is 0.7/10,000 in Indian population[2].

CASE HISTORY:

60 years old male presented to surgical out patient department with fever and gradually increasing painful swelling in the inguinal area on both sides of 6 months duration, that was tender on palpation.

On examination multiple discrete nodes palpated with largest lymphnode measuring 2.5x1.5cm.

Excision of inguinal lymphnode was done and sent to our centre for HPE.

FNAC was done earlier at another centre and reported as non specific inflammatory lesion.

Gross: Received multiple greyish soft tissue altogether measuring 4x4x1cm. Cut section showed multiple lymphnodes, largest measuring 2.5x1.5cm.

Microscopic appearance showed lymphnode with plenty of large cells with vacuolated, foamy cytoplasm with eccentric nuclei. (Fig:1)

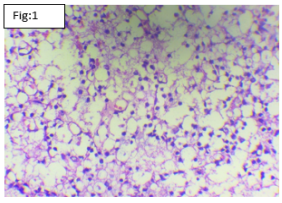

Figure 1: Biopsy from lymphnode showing sheets of foamy macrophages.

Differential Diagnosis considered were:

- (1) Mycobacterium Intracellulare.
- (2) Lipomatosis of lymphnode (apocrine metaplasia).
- (3) Lepromatous Leprosy.

Special Stains for AFB - TB & Lepra was done on the tissue material. AFB - TB - was negative, ruling out mycobacterium intrace llulare.Fig: 2AFB - TB - Lepra - Wade Fite Faraco Stain showed plenty of Lepra bacilli. (Fig: 2)

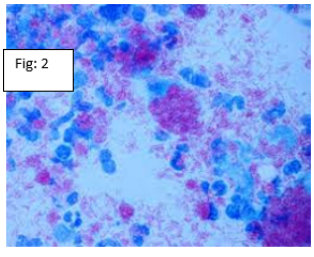

Figure 2: Special stain for lepra bacilli (Fite Faraco) showing numerous lepra bacilli

Diagnosis of Lepromatous Leprosy involving the inguinal node was made.

Further examination showed no skin or nerve lesions. No previous history of leprosy was present.

As patient had fever, he was put on ofloxacin and he immediately developed skin lesion on legs and arms that resembled Type 2 lepra reaction. (Fig 3&4)The patient was referred to the dermatologist.

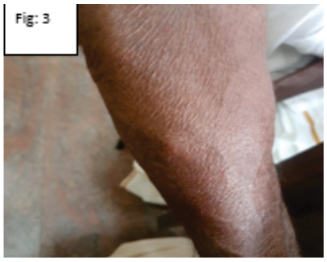

Figure 3: Skin lesions in the patient after treatment with Ofloxacin

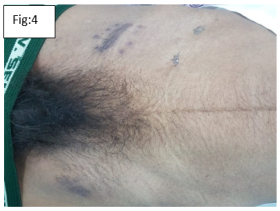

Figure 4: Nodular skin lesions in the patient after treatment with Ofloxacin

Biopsy was taken from the nodules resembling lepra reaction (Fig 5-7) and HPE with special stain with Fite Faraco confirmed lepromatous leprosy.

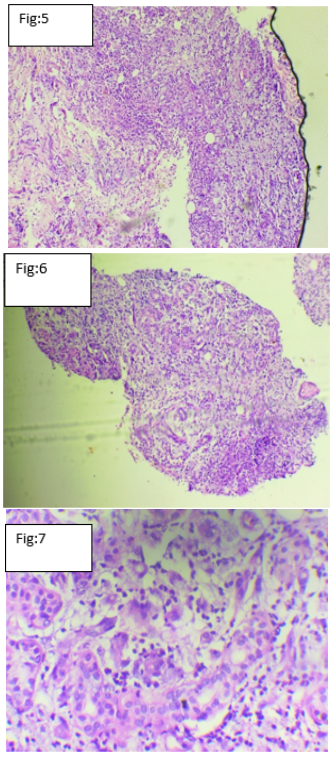

Figure 5-7: Skin biopsy showing type II lepra reaction

Leprosy patients developing skin lesions resembling Type 2 Reaction has been known to evolve following antibiotics.

Final diagnosis of lepromatous leprosy involving the inguinal lymphnode with Type II lepra reaction to ofloxacin was made and patient was treated on antileprosy treatment with steroids.

DISCUSSION:

Leprosy is a non fatal chronic granulomatous disease and is a major health problem in India and endemic in many countries. It is a multi system disease manifesting with cutaneous and neurological lesions and may have involvement of spleen, bone marrow, eyes, testis and lymphnodes. It is caused by Mycobacterium Leprae and primarily affects the schwann cells, endothelial cells and monocytes - macrophage system. Though incidence of lymphnode involvement with skin is common, lymphnode involvement without skin lesion is very very rare and upto our knowledge no case of involvement of lymphnodes without simultaneous skin lesions is not published[3].

Involvement of lymphnodes of leprosy is said to have been recorded by Godesden in the 15th Century[4].

In article published in International Journal of Leprosy - No/52, No 3 - 02/02/1984, in autopsies and biopsies of known case of leprosy patients all had skin and nerve lesion with lymphnode involvement.The lymphnodes affected by leprosy show presence of aggregates and sheets of foamy histiocytes surrounded by plasma cells, usually replacing the germinal follicles. These large foamy histiocytes with vesicular nuclei and called Virchow's Cells - Lepra Cells. These cells show Leprabacilli on modified ZN Stain.

In Kar et al study of 105 leprosy patients, it was found that clinical enlargement of lymphnodes was seen in all lepromatous & all borderline lepromatous cases. In order of frequency, sites involved were inguinal, cervical and axillary lymphnodes[5].

Nevertheless it is very unusual to diagnose leprosy patients by lymphnode biopsy without any other manifestations.
In 2009, Nery et al showed in their study that multibacillary leprosy, especially close to the lepromatous end of the spectrum may mimic other disease and should always be included in differential diagnosis of lymphnode enlargement[6].

In article published in Journal of Leprosy Rev - 28/09/2012 - 83 - 378 - 383 by Rahul Mahajan et al, patient presented with generalised lymphadenopathy with Type II lepra reaction involving lymphnodes without cutaneous involvement[7]. But on further evaluation it was found to have ichthyosis of skin and clinical diagnosis was Hodgkin's Lymphoma[8].

Gupta et al studied aspiration cytology of lymphnodes in leprosy patients and 51.7% were found to have Type I reaction and 25% were found to have Type II reaction. 16.6% patients had Type III pattern with atypical histiocytes due to improved cell mediated immunity and corresponding to borderline spectrum & 6.7% showed Type IV pattern with epitheloid cells - corresponding to Tuberculoid Spectrum[8].

An unusual presentation of leprosy as lymphadenitis, no cutaneous manifestation was seen. After referral to the dermatology department, patient was found to have hyperpigmented macules in gluteal region.

WHO classifies leprosy based on clinical manifestations and skin smear results as paucibacillary and multibacillary - PB leprosy and MB leprosy[9].

Ridley - Jopling classification depends on immune response and classified as Tuberculoid (TT), Borderline Tuberculoid (BT), Borderline (BB), Borderline Lepromatous (BL) and Lepromatous Leprosy (LL)[10].

Lepra reaction are type 1 & 2 - Type 1 is a delayed type of hypersensitivity with unstable CMI and usually affects skin and nerves[11].

Type II is Acute Immune Complex Vasculitis affecting skin and other organs and seen in Lepromatous Leprosy (LL) and Borderline Lepromatous (BL) patients and usually affect skin, eye, testis, liver and kidney and lymphnodes with constitutional symptoms. Our patient presented with Type 2 lepra reaction that evolved after antibiotic therapy.

Though this developed Type II lepra reaction to antibiotic ofloxacin during primary presentation, patient presented only lymphadenopathy without cutaneous lesion upto our knowledge, lepromatous leprosy involving lymphnode without cutaneous

involvement is not reported.

CONCLUSION:

This highlights the unusual presentation of leprosy and hence leprosy should be considered by the clinicians and pathologists as one of the differential diagnosis of lymphnode enlargement.

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