Non radiographic axial spondyloarthropathy in tuberculoid leprosy

Abstract

Rationale: Axial Spondyloarthritis (ax-SpA) includes a non-radiographic variant, called Non Radiographic Axial Spondyloarthrophy (nr-ax-SpA), which is a very rare type of arthritis of spine. Hansen disease or Leprosy is a chronic infectious disease with various clinical manifestations, which is endemic in India. Various arthritic manifestations have been reported in leprosy patients. Though the condition is treatable and reversible, it may remain unrecognized and undisclosed in patients suffering with Leprosy.

Patient concern: Here we illustrate a case of non-radiographic axial spondyloarthrophy in 40-year old male with diagnosis of borderline Hansen’s disease (leprosy) 15 years ago. Patient had reported chronic back pain for over five years, leading to stiffness of dorsal spine, and presented swollen wrist joint. Leprosy symptoms presented include dry hyper-pigmented, non-ulcerating, hypo-aesthetic (pain and temperature) patches on both legs, buttocks, upper abdomen and iliac crest.

Diagnosis: The patient was diagnosed as border line tuberculoid leprosy with nr-ax-SpA.

Treatments: He was treated with in domethacin, leflunomide and hydroxy-chloroquine, along with a standard treatment regimen to combat BT Leprosy. Follow up at 3 and 6 month revealed significant improvement.

Keywords: spondyloarthritis; leprosy; hydroxy-chloroquine.

Introduction

Spondyloarthritis (SpA) is a group of interrelated diseases with axial and peripheral inflammatory joint involvement along with many extra-articular manifestations [9]. The term Axial Spondyloarthritis (ax-SpA) has been coined in the year 2009 [11]. A subset of Axial Spondyloarthritis (ax-SpA) has been identified where in patients with inflammatory back disease shows no radiographic changes, and has been classified as Non-Radiographic Axial Spondyloarthritis (nr-ax-SpA) [12]. Some authors view this as a different presentation of a single disease or as a continuum [6].

Hansen disease, commonly known as leprosy, is a chronic infectious disease caused by Mycobacterium leprae, is characterized by damages to the skin and peripheral nerves. It has also been reported to invade visceral and bone joints. Due to the complex and variable clinical manifestations, it is frequently misdiagnosed. In cases of leprosy, rheumatological manifestations are frequent, although often under-recognized [3]. Here we present a case where in a male patient with borderline tuberculoid leprosy (BT-L) hadnr-ax-SpA.

Case presentation

A 40 year old male patient, presented with chronic back pain of more than 5 year duration. Pain started at lumbo sacral region, which was relieved on movement. Over the past one year, pain had spread to dorsal spine as well as to neck, with resultant stiffness and restriction of movement in these regions.
his wrist joints had swelling and pain. Bogginess and fluctua-
tions were noted along muscle tendons at both the wrist joints.

He has been diagnosed to be suffering from Hansen’s disease
(BT-L) for over 15 years and was getting treated intermittently
over this period of time. Social and family histories were un-
remarkable. He was working as an office assistant and had the
habit of chewing tobacco. The man was of average built, weigh-
ing 70 Kgs, with Blood Pressure (BP) 150/90 mmhg. Oedema,
palor, and lymphadenopathy were absent. Body temperature
was normal.

Dermatological examination revealed dry hyper pigmented,
non-ulcerating, hypo aesthetic (pain and temperature) patch-
es on both legs and buttocks. Hyper pigmented area were also
found on upper abdomen and iliac crest (Figure 1A,B). Ulnar
and posterior tibial nerves were think end but not tender. Ex-
amination of spine shows tenderness in lumbosacral and upper
dorsal region. The patient also had a positive Schoberg’s test.
Both his wrist joints were swollen and tender. Result of investi-
gation was as follows: Hemoglobin 12.0 gm per dl, ESR 26 m for
the first hour. Blood glucose, urea, creatinine and uric acid lev-
els were normal. Serum rheumatoid factor (Method ELISA) and
anticon2ab were within normal limits. HLA-B27 assay was nega-
tive, so were tests for HIV,I, II, and blood VDRL. Radiographic ex-
amination- MRI, showed a few budding osteophytes at lumbar
region. Saorociliac joint were normal. Signal intensity on T2 W1
of marrow was normal at all levels of spine. Skin scraping from
the diseased area revealed bunches of Mycobacterium leprae
(Figure 1C).

Figure 1: A case of non-radiographic axial spondyloarthropathy.
Shown here is a clinical photograph of the patient showing the
posture and lesions on the skin over legs (A); Hypopigmented skin
lesions over the abdomen (B); and Smear from scraping from skin
showing Mycobacteria leprae using Z.N.Stain (C).

This patient was diagnosed as border line tuberculoid lep-
rosy with nr-ax-SpA. He was put on indomethacin, Leflunomide
and hydroxy-chloroquine along with a standard treatment regi-
men to combat BT Leprosy. Follow up at 3 and 6 month revealed
significant improvement.

Discussion

Leprosy is a chronic infectious disease. Apart from cutane-
ous manifestations, nail changes and leprotic neuropathy in-
volving peripheral nerves, are other key manifestation of this
disease. Musculoskeletal involvement can occur in form of pe-
ripheral arthritides which may go unrecognized or undisclosed
[7,10]. Axial (spine) manifestation are of rare occurrence in lep-
rosy [2,4]. In the case under discussion, while the patient was
suffering from leprosy (BT) for a long time, but only recently
started experiencing inflammatory back pain, along with wrist
joint Arthritis. Restriction of spine movement was profound. Ra-
diographic examination of spine and sacroiliac joint showed no
gross abnormality. His HLAB27 was negative; so were common
serological markers for arthropathy.

Non radiological, non HLA-B27 spondyloarthropathy, with
or without sacroilitis, pose unique diagnostic dilemma, espe-
cially when occurring in a leprosy patient. In their series, Prasad
and colleagues had observed spondyloarthropathy in 7 out of
44 leprosy cases examined in a tertiary super-specialty referral
hospital clinic [10]. It was remarkable that all of these cases had
radiological changes, but the symptoms were not reversible in
all.

Arthritic manifestations in leprosy do occur in association
with a reactive episode, and may remit with treatment [8].
Occasionally these features are seen independent of reaction,
and fail to resolve despite adequate treatment [1]. In the case
presented here, despite long duration of the disease (BT-L),
features suggestive of a reactive episode were conspicuous by
their absence. Previously, cases has been reported where My-
cobacterium leprae been cultured from a case with spondylo-
discitis of cervical region [4]. Conversely, patients with rheuma-
toid arthritis undergoing treatment with Enaercept, have been
reported to have developed leprosy [4,5]. An auto immune cen-
tral axis with IL-23/IL-17 pathway is believed to be operative
in pathogenesis, of axial spond-arthropathy [6], both in nr.ax.
Spond and classical groups.

Conclusions

Leprosy is a common malady in India. Muscloskeletal mani-
festations, do occur in this disease but are often missed. Non
radiographic axial spond-Arthropathy is a new entity in associa-
tion with leprosy. The present case serves as illustration.

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