

Polyarthritis in a HIV Positive Patient

Dr. Ak. Joy Singh, MBBS, MD, DNB, DSM, DHA, DIPR, Associate Professor(PMR)

Dr. N. Bimol Singh, MBBS, Registrar (PMR)

Dr. N. Biplab, MD (MU), Assistant Professor (Medicine)

Dr. W. Jatiswar Singh, MD, Associate Professor (Radiodiagnosis)

Regional Institute of Medical Sciences, Imphal-795008

Abstract

Association between Human Immunodeficiency Virus infection and polyarthritis is less understood in our present set up. A 28 years old male presented with polyarthritis for a period of 6 months and history of weight loss and frequent attacks of loose motion for a period of 3 months. Inflammatory markers and immunological investigations for arthritis were not supportive. ELISA test for retrovirus antibody was found positive and confirmed by Western Blot test. Ultimately, a diagnosis of HIV associated Arthritis was made. Patient improved with local methylprednisolone injections and immunomodulatory therapy.

Key words: Polyarthritis, Human Immunodeficiency Virus infection.

Introduction

Polyarthritis is a common clinical presentation among patients in our day-to-day physiatry practice. When common inflammatory markers and immunological investigations do not support the clinical presentations, we started looking for a non-rheumatoid cause of arthritis. Within the last decade, human immunodeficiency virus (HIV) associated arthritis has been studied by many authors. We also came across a patient presenting as polyarthritis associated with HIV infection. This case is reported for the benefit of physicians dealing with arthritis to keep this possibility while dealing with arthritis.

Case Report

A 28 years old male, businessman in desktop related works, married for about 2 years with a 6 month old daughter reported to the Department of Physical Medicine and Rehabilitation OPD with the complaints of multiple joint pain, evening raise of temperature not responding to treatment for about 6 months. He was unable to walk independently without support due to pain and swelling of the left ankle joint and could not work with computer due to swelling of wrist and elbow joints on the left side with flexion deformity of 30° in elbow. He gave history of loss of weight and 3-4 attacks of diarrhoea treated with intra venous infusions during the last 3 months. There was no family history suggestive of arthritis. There was no history for blood transfusion, tuberculosis, diabetes, etc.

Examination revealed swelling in the left wrist and elbow joints, left ankle and raise of local temperature in the joints including knee and right wrist. 30° Flexion deformity of the left elbow and synovitis of tibialis posterior tendon on the left side were also noted. Neurological examination did not reveal any deficit except for wasting without weakness of the thenar eminence, 1st web and forearm of the left upper limb.

He gave history of contact with local sex workers without protection on 2-3 occasions when he was undergoing computer engineering course.

Haemogram showed TLC (8000/mm³), N (76%), L(22%), ESR(02mm/1st hr, 05/2nd hr), negative CRP(tested twice), Rheumatoid factor, and equivocal report(55 U/ml) of anti-ds DNA antibody. Renal and liver functions tests, blood sugar were essentially normal. Nerve conduction velocities (NCV) for both motor and sensory nerves in the upper limbs were within normal limits. MRI of the cervical spine did not reveal any bony or spinal cord pathology.

Based on the history, clinical and investigation findings, possibility of a non- rheumatoid cause of polyarthritis was considered and ELISA test for retrovirus antibody was done after counselling the patient. It was communicated as strong positive. As per protocol of National AIDS Control Organization (NACO), the test was repeated two more times and further confirmed by Western blot test. CD4 count was 314/mm³. Anti retroviral therapy was not considered as per the institutional policy since CD4 count was above 300. Both his wife and daughter tested negative for retrovirus.

Address for Correspondence : Dr Ak. Joy Singh, Associate Professor, Department of PMR, Regional Institute of Medical Sciences, Imphal-795008 E mail- joyakojam2@yahoo.com

He was treated with intra-articular injections of methyl prednisolone in the left elbow and wrist joints followed by local infiltration of hydrocortisone in the synovium of the tibialis posterior near the left ankle. An oral antibiotic (doxycycline) was given for one month and simultaneously oral methotrexate (7.5 mg weekly) and folic acid were also instituted. Potential side effects of methotrexate were kept in mind while giving methotrexate in HIV infected patients. Liver function test, TLC, DLC and platelets were checked regularly. CD4 count checked after 3 months of initiation of therapy was 302/mm³. He was symptom free during the last check up in April 2005. This case report was submitted after taking a written consent from the patient. This report highlights a wide horizon of polyarthritis and to consider HIV associated arthritis as another cause of polyarthritis.

Discussion

Since the beginning of the human immunodeficiency virus (HIV) epidemic, several musculoskeletal manifestations had been reported in infected individuals¹. Many of these were described in small groups of patients. HIV associated arthritis, infectious arthritis, and spondyloarthropathies are the best characterised manifestations of human immunodeficiency virus². The number of CD4+T cells as a predisposing factor for the different musculoskeletal manifestations has not been fully elucidated³.

The exact incidence of manifestation of arthritis in patients with HIV remains unclear. The classical presentation is that of reactive arthritis related directly or not to the viral infection⁴. The pattern of articular involvement seen early in this HIV infected patients is quite similar to that seen during other viral disorders, including acute onset, self limited course, polyarticular involvement, and lack of radiological damage. As observed by others, it is of interest that these signs resolved when antiviral therapy was started⁵. This presentation is very different from the common reactive arthritis following gut or respiratory infection⁶. The immunodeficiency state related to HIV may favour infections and increased severity has been observed in combination with HIV^{4,7}.

There have been controversies regarding co-incidence of HIV and typical Rheumatoid Arthritis (RA). However, there is a classical relative exclusion between these 2 diseases⁸. Regression of RA has been in some but not all patients with RA who became HIV seropositive⁹. However, RA-like manifestations has been observed in HIV patients, particularly in Africa¹⁰. Indeed, patients with RA combined with HIV tend to have a milder arthritis, and rheumatoid factors and antinuclear antibody are seldom found⁴.

The use of active drugs for RA in the context of HIV remains problematic. Methotrexate was rapidly active in this patient. Its effect on HIV patient is unclear, but it may worsen the disease. This issue will be even more difficult to address when the current new treatments including cytokine inhibitors are discussed in the context of concurrent HIV infection. When anti-TNF- α treatment, namely etanercept was given to an HIV patient with psoriatic arthritis, severe infection was observed¹¹. Accordingly, careful follow up and additional cases are needed to clarify this issue.

Bileckot¹² reported 32 cases of HIV related arthritis. Acute, febrile, asymmetrical, nondeforming, nonerosive polyarthritis was the most common clinical pattern of arthritis in HIV-positive patients. Rheumatologists need to know how to provide counselling.

Berman et al⁴ studied 270 patients with HIV infection for the presence of rheumatic complaints. He reported 7.8% (n=21) patients presented with HIV associated arthritis after excluding HLA - B27 related arthritides such as Reiter's syndrome, psoriatic arthritis and rheumatoid arthritis. Males were more involved than females (27:4) with a mean age of 34.8 + 11.1 years. Presentations were oligoarticular in 10 (47%), monoarticular in 8 (38%), asymmetrical in 2 (9%) and symmetrical in 1 (4%). The mean duration for arthritis was 2 weeks (1-24 weeks). Rheumatoid factor and HLA-B27 antigen were negative in all 15 patients where above investigations were performed. He did not find strong correlation between duration of arthritis with the HIV stages and type of articular involvement; however, he noticed a trend between the number of involved joints and stages of HIV infection.

Three patients with rheumatoid arthritis that remitted with the development of the HIV infection has been described in the literature, and this has contributed to the belief that RA and HIV infection or the acquired immuno deficiency syndrome(AIDS) cannot coexist. It appears that active RA may indeed coexist with AIDS. It remains to be seen under what setting HIV may have a disease modifying effect in RA. These issues have important implications regarding the pathogenesis and therapy of RA, especially in terms of the role of CD4+ lymphocytes and anti-CD4 monoclonal antibody therapy.

Javier Marquez et al¹³ studied frequency and characteristic of HIV virus associated arthritis in patients receiving highly active antiretroviral therapy(HAART). He reported 75 individuals with HIV infection and musculoskeletal manifestations which include 65 men and 10 women with a mean age of 32 + 4.5 years (range 21 – 58). Mean CD4 cell count was 250/mm³ (range 20-450), and mean HIV viral load was 5210 (range 0-75300) copies/ml.

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