Poncet's Disease: Tuberculous Rheumatism

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Poncet's disease is a polyarthritis associated with visceral tuberculosis in which there is no evidence of direct bacteriological involvement of the joints. It therefore differs from tuberculous arthritis which is characterised by direct tuberculous involvement, usually of single joint. The exact incidence of Poncet's disease in not known, only few case reports are available in literature. We report a case of Poncet's disease in a child, who recovered after antituberculous therapy.

CASE REPORT

R, was an eight year old boy who presented on 13th March, 1992 with one month history of pain and swelling of both the ankle joints and redness and pain of both the eyes for 3 days. There was no discharge from eyes or blurring of vision. He had been febrile for 2 days prior to admission. There was no past history of any other joint involvement, rash, subcutaneous nodule, colitis, urethritis, congenital ulcers, loss of appetite/weight.

On examination, he was febrile (maximum temperature 38.5°C), malnourished (weight = 19 kgs) and had cervical and left axillary lymphadenopathy. There was erythema nodosum over both shins and he had bilateral phlyctenular conjunctivitis. The ankle joints were swollen and tender. Abdominal examination revealed liver 5 cms and spleen 3cms below the right costal margin. There was no BCG vaccination scar.

Investigations showed Hb 12.7 gm/dl, TLC 11,000/mm³ with polymorphs 66%, lymphocytes 29%, monocytes 2% and eosinophil 3%; ESR 46 mm in first hour (Westergren method); liver function tests were normal, Mantoux test (1 TU) was strongly positive (20 mm x 18 mm), chest X-ray revealed hilar adenopathy, X-ray of ankle showed soft tissue swelling without any bony changes. Based on these findings a diagnosis of a poncet's disease was made.

Patients was treated with a short course chemotherapy protocol (HRZ for first 2 months, followed by HR for next 4 months). Local corticosteroid were instilled for phlyctenular conjunctivitis. He became afebrile and joint swelling decreased after one week of therapy. By 3 weeks time his phlyctenular conjunctivitis, erythema nodosum and arthritis had become passive. He has remained well subsequently and on follow-up after two and half years, he is asymptomatic.

DISCUSSION

Charcot in 1964 described a large number of patients with polyarthritis who later succumbed to pulmonary tuberculosis. In 1892 Grocco suggested that patients with tuberculosis might present with an arthri-
tis unassociated with tubercles or abscesses. In 1987 Antonin Poncet gave the first detailed description of this condition that still bears his name.  

Clinically tuberculous rheumatism could be primary or secondary depending on whether it occurred as the first manifestation of the tuberculous infection or occurred during the course of overt tuberculosis. The clinical spectrum varies from simple arthralgia to acute or subacute rheumatism and can become chronic. The pattern of articular involvement is predominantly non migratory, polyarticular with mild to moderate functional incapacity. Morning stiffness is usually absent. Complete remission occurs with antituberculous therapy and usually there is no residual deformity. Complications associated with tuberculous arthritis (e.g. ankylosis, shortening of limbs) are usually not seen in Poncet's disease.

Chandra Shekaran et al from Madras identified 42 cases of Poncet's disease from his retrospective study of 19,915 cases of arthritis. There were 23 males and 19 females with mean age of 32.87 years. Polyarthritis was seen in 29, oligoarthritis in 8 and 5 had monoarthritis. Out of 42 patients 26 had clinical evidence of pulmonary tuberculosis (31 had radiological evidence of parenchymal lesion), 6 had phlyctenular conjunctivitis and 11 had cervical lymphadenopathy with biopsy proven tuberculosis. He considered complete remission with no residual deformity, with antituberculous therapy.

Malik et al reported 6 cases of Poncet's Disease from Chandigarh. Two cases showed histologically proven tuberculosis and in the rest tuberculin test was strongly positive.

Our patient had oligoarthropathy associated with convincing evidence of primary pulmonary tuberculosis. The simultaneous swelling of two joints, phlyctenular conjunctivitis, erythema nodosum coincident with the primary complex suggest that the joint features were manifestation of tuberculous allergy. We did not consider any further study of joint fluid for acid fast bacilli because of minimal swelling of both joints. The clinical findings resolved rapidly with antituberculosis chemotherapy.

The mechanism underlying the polyarthritis in Poncet's disease is unknown. During the 1950s allergy to tubercle bacilli was the favoured hypothesis and Jacquelin considered hypersensitivity to tubercle protein to be the sine qua non of tuberculous rheumatism. Poncet's disease and erythema nodosum could be differing expressions of a common immunopathogenic response to fractions of the tubercle bacillus. Erythema nodosum and Poncet's disease occur most frequently with primary tuberculosis. Southwood and others have noted increased PPD induced reactivity of synovial fluid lymphocytes compared with that of peripheral blood lymphocytes. Holoshitz and others have demonstrated antigenic similarities between fractions of tubercle bacilli and human cartilage.

The immune responsiveness to mycobacterial antigens may be genetically determined. It is known that HLA-DR3 + individuals are hyper-responsive to mycobacterial antigens and amount vigorous T-cell responses to the 'amino acid 2-12 epitope' of 65 KDa heat shock protein. However whether this antigenic similarity has any significance in the etiopathogenesis of Poncet's disease is not very clear.