POST INJECTION TUBERCULAR INFECTION

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MJAFI 1999; 55 : 77-78

KEY WORDS : Gluteal region; Post injection tuberculosis.

Introduction

Mycobacterium tuberculosis rarely affects subcutaneous tissues. This infection is usually an extension from underlying lymphadenitis, synovitis or osteomyelitis and rarely direct inoculation through the skin. We report an isolated case of tubercular infection of the gluteal region following intramuscular injection.

Case report

A 19-year-old male, resident of Haryana reported with history of chronic discharging sinus in the right gluteal region of 2 months duration. The patient had fever two and half months ago for which he was given intramuscular injections, 4-5 in number (drug not known) in right gluteal region at a rural dispensary. A week later, he developed an abscess in the gluteal region which was drained.

Fig. 1 : Sinogram showing no communication to right hip joint

Following drainage the wound failed to heal completely and evolved into a persistent sinus with purulent discharge. There was no history of passing bony chips or granules from the sinus. There was no history of any major illness or surgery in the past. No abnormality was detected on general examination. Locally, the patient had two sinuses in the right gluteal region with purulent discharge. The surrounding skin was indurated. Mild tenderness was elicited on deep pressure. Right hip was clinically normal. A clinical diagnosis of post injection abscess with chronic discharging sinus was made. Haematological and biochemical parameters were normal (Hb 12.5gm%, Blood sugar-88mg% fasting, Urine RE-Normal) except an erythrocyte sedimentation rate of 39 mm fall in first hour. Patient was HIV negative. A plain X-ray of the right hip and chest were normal. A sinogram was done, it showed two irregular branching sinuses with no communication to the right hip joint (Fig. 1). Pus culture grew *Staphylococcus aureus* sensitive to cefotaxime, gentamicin, erythromycin and methicillin.

The sinus tract was explored and excised under GA. 15 days later after delineating with methylene blue injection. Histopathological examination of the sinus tract revealed minimal acanthosis in the epidermis. Lying below in dermis and in subcutaneous tissue was granulation tissue. The granulation tissue showed multiple granulomas. The granulomas comprised of epithelioid cells, Langhans giant cells with lymphocytes and plasma cells. No caseation however could be seen. No AFB could be demonstrated.

Fig. 2 : Microphotograph showing multiple granulomas. The granulomas are comprising of epithelioid cells, Langhans giant cells with lymphocytes and plasma cells

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on Zheil Neelsen stain. The histological picture of sinus tract was suggestive of tuberculous infection (Fig. 2). Antitubercular treatment (EHRZ) was started after receipt of histopathological report. The patient recovered well with complete wound healing.

Discussion

Primary implantation of tubercle bacilli into subcutaneous tissue is almost unheard of. Glynn described a case of right forearm tubercular abscess in a patient of pulmonary tuberculosis [1]. Forbes and Strange [2] have reported a case in which tubercular abscess of muscle and subcutaneous tissue have occurred in areas of previous intramuscular injections of Penicillin without any evidence of associated pulmonary, bony or articular tuberculosis. They deduced that the infection was hematogenous. *M. fortuitum* has also been incriminated occasionally as a cause of subcutaneous tubercular abscess following injection [3]. Hence for isolated subcutaneous tuberculosis the following pathogenesis can be postulated [1,2,4]:

(a) Subcutaneous inoculation of tubercle bacilli from contaminated instrument or medication, (b) The injection itself may have damaged the subcutaneous tissue so that the organisms, dormant elsewhere, lodged in these areas of diminished resistance hematogenously. (c) Though, a primary focus of infection

cannot be detected in every case of cutaneous tuberculosis, Chen CH et al [4] stress that all cases of cutaneous tuberculosis may represent a direct extension from an infected pulmonary or extrapulmonary focus via blood or lymph.

The available evidence in literature points that in cases of tubercular sinus in the gluteal region, primary diagnosis of osseointerarticular tuberculosis of hip should be considered. In our case, there was no clinical or radiological evidence of tuberculosis in chest, abdomen or hip joint despite an extensive search. Hence possibility of infection by direct inoculation of tubercle bacilli is likely and compromised immune status of the patient could be the underlying cause.

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