

Treatment of tuberculosis of the hip.

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Between September 1986 and December 1993, 57 patients were seen with tuberculosis of the hip at Kenyatta National Hospital. The diagnosis was proven by histological examination in all and in 54 patients (95%) caseation was present. The sex ratio M:F was 2:1 and ages ranged from 6 to 54 years (mean 30 years) with 26 patients between 21 and 40 years old.

The common presentation was a swollen hip, a limp, decreased range of hip movements, fixed flexion deformity and pain. Three patients had protrusio acetabuli and three had subluxed or dislocated hips. Twenty-three patients were anaemic and the erythrocyte sedimentation rate (ESR) was raised in all (mean 65mm/hr; range 25-115mm/hr). The Mantoux test was positive in 46 (81%), while 17 of the patients (30%) were HIV-positive. Chest radiographs showed active or healed pulmonary tuberculosis in 26 (46%) of the patients. The hip radiographs showed

osteopenia with early cyst formation in 43 (75%) and in 14 (25%) patients they demonstrated joint space narrowing and destruction.

Treatment was antituberculous chemotherapy (thiacetazone and INAH for 18 months with streptomycin for the first 2 months), diagnostic arthrotomy and traction in abduction. Children with subluxed or dislocated hips were treated in hip spicas. Adductor tenotomy was performed in 17 patients, while five had arthrodesis, three had excisional arthroplasties and two had total hip replacements after chemotherapy.

The 43 patients who presented with preserved joint spaces did well but the 14 who presented with reduced joint space, subchondral erosions and protrusio acetabuli or outright dislocation of the hip did poorly.

Introduction

This paper presents a personal series of 57 patients with tuberculosis of the hip seen over seven years. Treatment of tuberculosis of the hip has always

presented a formidable problem to orthopaedic surgeons. Patients tend to present late when joint destruction has started and, before the introduction of antituberculous drugs, this led to fibrous ankylosis of the hip^{1,2}. Controversy still exists as to role of surgery in the treatment of tuberculosis of the hip^{3,4}.

Patients and methods

Fifty-seven patients with hip tuberculosis were seen between September 1986 and December 1993. Their age, sex, clinical presentation, results of investigation, operative findings treatment and outcome were recorded.

There were 38 males and 19 females (sex ratio M:F;2:1). Ages ranged from 6 to 54 years (mean 30 years) and almost half were in the 21-40 years age group (Table I).

TABLE I *Age and sex distribution of tuberculosis of the hip*

Age (years)	Male	Female	Total
0 - 10	0	2	2
11 - 20	7	4	11
21 - 30	13	3	16
31 - 40	6	4	10
41 - 50	8	4	12
51 - 60	4	2	6
TOTAL	38	19	57

The common presenting symptoms were malaise, low grade fever and a painful limp. The common physical findings were a limp, joint stiffness and pallor (Tables II and III).

TABLE II *Presenting symptoms*

Symptoms	Patients (%)
General malaise	55 (96%)
Fever	52 (91%)
Limping gait	49 (86%)
Pain	45 (79%)

TABLE III *Physical Findings*

Signs	Patients (%)
Limping gait	49 (89%)
Stiffness	44 (77%)
Flexion deformity	40 (70%)
Pallor	23 (40%)

INVESTIGATIONS

Twenty-three patients were anaemic and all the patients had raised erythrocyte sedimentation rates (ESR) (mean 65mm/hr; range 25-115mm/hr). The Mantoux test was positive in 46 (81%) patients. Seventeen (30%) patients were HIV-positive. The chest radiograph was suggestive of active or healed pulmonary tuberculosis in 26 patients (46%).

Radiographs of the affected hips showed:

1. osteopenia with early metaphyseal and/or epiphyseal cyst formation in 43 (75%) patients,
2. joint space narrowing in 8 patients (14%), of whom three had protrusio acetabuli and three had subluxation or dislocation of the hip (Figs 1 & 2).

TREATMENT

The standard regime of chemotherapy for all patients was streptomycin for two months and thiazina for 18 months. Arthroscopy was performed in all cases. Caseous material was evacuated, a synovial biopsy taken and the gross appearances noted.

FIG 1 Radiograph of a right hip showing tuberculous erosion of the acetabulum and femoral head with early subluxation.

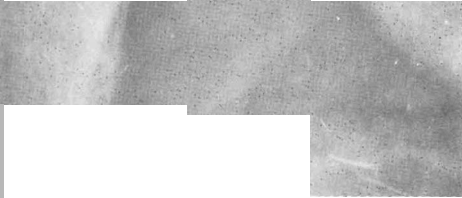
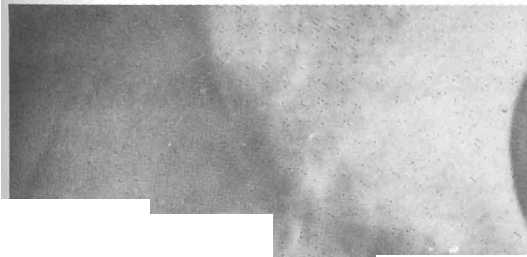
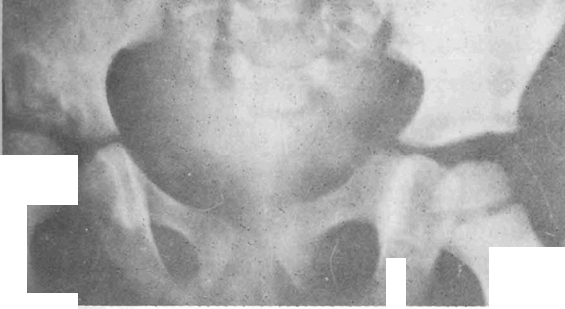


FIG 2 Radiograph showing subluxation of a tuberculous hip.

Subluxed and dislocated hips were relocated and adductor tenotomy performed to ensure stability of reduction. Thereafter leg traction with the hip in mild abduction was applied for five weeks. Children under five years with subluxed or dislocated hips were nursed in a hip spica for eight weeks.

Arthrodesis was performed on 5 patients with gross bony destruction; excision arthroplasty (Girdlestone's) was performed on 3 patients and 2 patients underwent total replacement arthroplasty after a full course of chemotherapy (Table IV).

TABLE IV Operative procedures

Operation	Patients (%)
Arthrotomy and biopsy	57 (100%)
Arthrodesis of the hip	5 (9%)
Excision arthroplasty	3 (5%)
Total hip replacement at 2 years	2 (4%)
Adductor tenotomy	17 (30%)

Results

At arthrotomy caseous material was found within the hip joint in 54 (95%) patients. From all patients a synovial biopsy and any caseous material was sent for histological examination. All specimens were reported as tuberculosis.

Clinically, the results following the regime of chemotherapy, arthrotomy and traction was assessed as:

Good = pain free, good range of hip movements, and return to full activity
= **43 (75%)**

Poor = persistent pain, persistent deformity
= **14 (25%)**

It was also noted that those patients who presented before joint destruction occurred, as seen radiologically and at arthrotomy, had good results, while those with protrusio acetabuli, dislocated hips or destruction of articular cartilage had poor results.

Discussion

The current treatment for bone and joint tuberculosis is the well controlled administration of effective antituberculous drugs⁶. The surgeon's role is mainly for arthrotomy to decompress the hip and biopsy for confirmation of the diagnosis. In 1969 Wilkinson³ advocated chemotherapy, partial synovectomy and debridement for the treatment of tuberculosis of the hip. However, good results may be obtained by chemotherapy and arthrotomy alone in some cases, whereas major synovectomy and curettage of joint surfaces may cause further damage to the joint.

We advise surgery for relocation of subluxed or dislocated hips assisted by adductor tenotomy.

Patients who present with a destroyed hip may benefit from excision arthroplasty (Girdlestone's) or hip arthrodesis after two years of effective chemotherapy, although these procedures both put extra strain on the knee and the spine.

We have performed total hip replacement after adequate chemotherapy⁷ in two patients but we have been cautious after noting that 17 patients (30%) were HIV-positive. Immunosuppression may lead to secondary infection with hip dislocation and failed surgery⁸.

In this series it was noted that 75% of the hips with "good" joint space radiologically and a good joint surface as seen at arthrotomy had good results with the treatment regime of arthrotomy, chemotherapy and traction. The 25% with poor results had presented with narrowed joint space and bone erosion, or with subluxation, dislocation or protrusion acetabuli.

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