TUBERCULOSIS OF THE GREATER TROCHANTER

A REPORT OF EIGHT CASES

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The clinical details of eight patients who have been treated for tuberculosis of the greater trochanter during the last 15 years are presented. Their average age was 56 years. In every case the diagnosis was not made for some time, partly because of the vagueness of the symptoms and partly because the surgeon seemed unaware that tuberculosis could occur at this site.

In treatment it is recommended that the use of specific antituberculous drugs should be combined with surgical excision of all necrotic tissue and closure of the wound over an irrigation-suction drain system through which streptomycin is instilled.

Tuberculosis of bone and joint is claimed to have practically disappeared in many western countries (Paus 1977). Bulla (1979), in a review of the global pattern of tuberculosis in recent years, states that out of a total number of 568 000 newly registered cases in 1972, 90 per cent were of the respiratory system but, in Europe, 16 per cent (not 10 per cent) were non-pulmonary. During the past 15 years in America and Europe the decrease in total reported cases of tuberculosis has been entirely due to a decrease in pulmonary cases (Farer, Lowell and Jewell 1979). Why the factors responsible for the decline in pulmonary tuberculosis are not influencing the incidence in other sites is not known.

In 1979 Bulla reviewed 20 000 newly registered non-pulmonary cases from 22 countries and showed that 19 per cent of these had tuberculosis affecting bones or joints.

Teale (1870) first described tuberculosis of the greater trochanter. Alvik (1949) reported 36 patients treated between 1936 and 1948. He believed that the disease spread from the trochanteric bursa to bone and that the bursa might become infected by a 'gravitational abscess' from tuberculosis of the lumbar spine. Lampe (1953) believed that the lesion started in the bone because of the presence of encysted foci in nine of his 17 cases. McNeur and Pritchard (1955) thought that the osteitis was of considerable duration and possibly preceded the bursal involvement.

Very few reports of tuberculosis of the greater trochanter have appeared in the recent literature. Eight patients with various degrees of tuberculous disease of the trochanter are described and their progress reported. The purpose of this report is to draw attention to the occurrence of tuberculosis at this site and to discuss its treatment.

CASE REPORTS

Case 1. In 1978 a 71-year-old farmer complained that he had had increasing discomfort over the mid lateral aspect of his left thigh for 18 months. The onset had been vague and the symptoms had at first been relieved by simple analgesics. A soft swelling which had been present for the previous 12 months on the lateral side of his left thigh had recently increased in size. On medical advice the fluctuant swelling was aspirated and acid-fast bacilli were grown from the aspirate. Radiography showed erosion of the greater trochanter. A sinus persisted following aspiration. After one month of antituberculous chemotherapy, necrotic tissue was evacuated from the trochanteric region and a pocket of soft material extending distally beneath the deep fascia was drained. The trochanter was debrided. Irrigation-suction drainage was set up using streptomycin in saline and continued for four weeks. The wound had then fully healed and the patient was mobilised. Histology confirmed tuberculous disease. Two years later the patient is asymptomatic. In 1975 his wife had been treated for pulmonary tuberculosis and some of his cattle had tuberculosis in 1974.

Case 2. In 1977 a 46-year-old agricultural labourer attended a general surgeon with a painful swelling over the left greater trochanter which had been present for seven months and had been diagnosed as a lipoma. Radiography (Fig. 1) showed erosion of the left greater

Fig. 1.

Case 2. Anteroposterior radiograph showing erosion of the greater trochanter.

trochanter region. After incision and drainage of the abscess acid-fast bacilli were found. Antituberculous therapy was given but after 10 months the discharge from the drainage wound persisted. At operation all the necrotic tissue was removed leaving healthy looking bone in the trochanteric area. The wound was closed with irrigation-suction drainage. The wound healed within two months, and three years later the patient is asymptomatic. In 1952 he had been treated for tuberculosis of the spine. There was no family history of tuberculosis and he denied drinking unpasteurized milk.

Fig. 2

Fig. 3

Figure 2—Case 3. Radiograph of the right hip showing erosive changes. Figure 3—Case 4. Radiograph showing cystic lesions in the right trochanteric region. Osteoarthritis of the right hip masked the patient's symptoms.

Case 3. A 56-year-old labourer complained of vague discomfort in the right trochanteric region. Two years later, in 1975, a mobile swelling over the greater trochanter, which was tender on palpation, became obvious. This was treated as a bursitis by injections of steroids and local anaesthetic before radiography showed sclerotic thickening of the cortex over the greater trochanter. Excision of the trochanteric bursa showed that this bursa contained several loose "melon seed bodies". Histology confirmed tuberculous disease and tubercle bacilli were grown on culture. Antituberculous therapy was then started but six months later the patient had a discharging sinus at the operation site. In 1977 (Fig. 2), after excision of the sinus, curettage of the greater trochanter and irrigation-suction drainage of the infected area, the wound healed. Four years later the patient is asymptomatic. There was no family history of tuberculosis.

Case 4. A 48-year-old farmer presented in 1975 with increasing pain in the right groin and trochanteric area which had been constant for the previous three months and increased with active exercise. The patient's family doctor was treating him for osteoarthritis. A pelvic radiograph (Fig. 3) showed narrowing of the joint space and marked cystic changes in the right upper femur and greater trochanter. Biopsy of the trochanteric lesion gave histological evidence of tuberculous osteomyelitis. The patient was given standard antituberculous therapy but a sinus persisted from the site of the biopsy and three months later a debridement of necrotic tissue was performed. Bone grafts from the iliac crest together with some Kiel grafts were used to fill the resulting defect. He was nursed in a hip spica for four months and then mobilised while continuing the antituberculous therapy. A year later he was symptom free but an occasional discharge persisted from a sinus in the centre of the scar until a fragment of Kiel bone was removed. He is now asymptomatic and has returned to work. There was no family history of tuberculosis.

Case 5. A 68-year-old retired publican had an ache, to which not much attention had been paid, over the outer side of the right thigh for six months before developing a cold abscess which discharged in October 1971. Radiography showed erosion of the right greater trochanter and

tubercle bacilli were grown from the discharge. He was given antituberculous therapy but had recurring flares with discharge through the sinus until, after four weeks further antituberculous therapy in November 1973, the sinus track and all necrotic tissue including the infected bone were excised and irrigation-suction drainage was instituted for three weeks. The wound healed well and the patient remains asymptomatic. He had no family history of tuberculosis and denied drinking unpasteurized milk.

Case 6. A 50-year-old farmer's wife had a cold abscess of the outer mid-third of her right thigh incised and drained in 1955. Pulmonary tuberculosis with associated trochanteric tuberculous bursitis was diagnosed at that time and treated medically. For 10 years she had a chronic discharge from the proximal end of the incision at the base of the greater trochanter. In 1965 she was referred to hospital with a large abscess of the medial third of her right thigh. Radiography showed a large lytic lesion of the right greater trochanter (Fig. 4). The cold abscess on the medial aspect of the thigh was explored and a sinus track found extending beneath the deep fascia posteriorly towards the greater trochanter. Chemotherapy was recommenced and one month later curettage of the trochanteric region was performed and irrigation-suction drainage instituted for 10 days. The histology of the necrotic tissue confirmed tuberculosis. She made an uneventful recovery and remains asymptomatic. There was no family history of tuberculosis but she admitted drinking unpasteurized milk from cows known to have tuberculosis.

Fig. 4

Case 6. Radiograph showing a large lytic lesion in the right greater trochanter.

Case 7. A 59-year-old postman, whose mother had previously been treated for pulmonary tuberculosis in 1962, was admitted to hospital with pulmonary tuberculosis in 1967. He was referred for an orthopaedic opinion six months later because of a swelling over his right greater trochanter. He had had some discomfort while walking for the previous eight months but the swelling had been overlooked on the initial medical examination. In spite of antituberculous therapy the swelling had persisted and, in 1968, he was treated by excision of necrotic tissue which included most of the greater trochanter. The histology confirmed the diagnosis. A sinus continued to discharge intermittently for 12 years until he died from a cerebral infarction in 1980. He had refused further operation on a number of occasions.

Case 8. A 52-year-old farmer presented in 1967 with moderately severe pain over his right trochanter. Twelve years previously he had a cold abscess drained from the same area and a sinus behind the trochanter had discharged intermittently ever since. A radiograph (Fig. 5) showed considerable destruction of bone. Chemotherapy was started and, one month later, curettage of necrotic tissue from the trochanteric region and the base of the neck of femur was performed. After three months immobilisation in a hip spica, he was allowed to

bear some weight on crutches and progressed to normal walking two months later. He had no further discharge until his death from a myocardial infarction five years later. He also admitted drinking unpasteurized milk from his cows, some of whom had tuberculosis.

Fig. 5

Case 8. Radiograph of the right hip demonstrating erosive changes in the greater trochanter and calcification in the soft tissues.

DISCUSSION

There is no clear trend in the rate of occurrence of tuberculosis in any particular anatomical site, although there are marked differences in the age distribution according to anatomical sites. The age group 45 to 64 years was most at risk for tuberculosis of bones and joints (Bulla 1979). The average age of the eight people reported here is 56 years. Thirty of the 38 patients reported by McNeur and Pritchard with trochanteric tuberculosis before 1955 were aged between 10 and 40 years. The reason for the difference in age distribution between these reports is unknown.

Tuberculosis of the greater trochanter has a marked tendency of recurrence (McNeur and Pritchard 1955), possibly because of inadequate treatment both medically with antituberculous therapy and surgically by debridement.

The clinical presentation of tuberculosis of the greater trochanter is often vague and a cold abscess arising from the trochanteric region may present on either the medial (Case 6) or more commonly on the lateral side (Case 1) of the thigh. In six of the eight cases reported here there was delay ranging from 3 to 24 months between the onset of symptoms and the making of the correct diagnosis.

Lindahl (1952) reported 35 cases of trochanteric tuberculosis which he had treated by one of four methods. He found that reactivation occurred in some cases treated by either immobilisation and minor surgery or by radical incision and primary drainage but no reactivation occurred in patients treated by prolonged antibiotic therapy alone (two cases) or by radical excision and antibiotic therapy (10 cases). McNeur and Pritchard (1955) reported disappointing results in

patients with trochanteric tuberculosis treated by immobilisation and minor surgical procedures. Lampe (1953) believed that radical surgery combined with antibiotics was the treatment of choice.

One of our patients (Case 7) had increasing swelling and discomfort after six months of medical therapy alone. This suggests that the two good results reported by Lindahl (1952) may have been fortuitous.

In this series treatment by minor surgery and antituberculous therapy resulted in sinuses (Cases 2, 3, 4, 6 and 8) which persisted until radical surgery was performed.

Treatment consisting of antituberculous therapy for one month before operation followed by debridement of caseous soft tissue and bone combined with a period of postoperative irrigation and suction drainage of the affected area beneath the deep fascia, has been found to give very satisfactory results (Cases 1, 2, 3, 5 and 6) even if previous surgical treatment had failed. At operation a good exposure of the whole affected area is recommended so that all diseased tissue may be removed to leave a healthy granulating base. The extent to which necrotic tissue can extend beneath the deep fascia, as in Case 1, is not often appreciated and if necessary a second incision can be made in the distal third of the fascia lata so that necrotic tissue can be evacuated and the subfascial space irrigated with antibiotic solution.

Total excision of the greater trochanter when infected has been regarded as unnecessary and dangerous as it may cause the infection to spread to the hip joint (McNeur and Pritchard 1955). If the trochanter is involved the author believes that the infected area should be excised. If the operation is delayed for about one month while the patient receives antituberculous therapy, the risk of further spread of the disease by operation should be greatly reduced.

The use of continuous instillation of antibiotic solution (one gram of streptomycin in 500 cubic centimetres of normal saline) with continuous suction to remove infected material (Willenegger and Roth 1962) has been used with satisfactory results in chronic osteomyelitis (Taylor and Maudsley 1970). The use of this technique following debridement of caseous tissue would appear to be a logical and satisfactory idea. This treatment is continued until the irrigation tubes become obstructed which is usually after four weeks.

The view that the disease spreads from bursa to bone (Alvik 1949) appears more acceptable than vice versa (Lampe 1953). Although one of the cases reported here had spinal tuberculosis 25 years previously, there is no convincing evidence to substantiate Alvik's other claim that bursal infection arises by spread from the lumbar spine.

Antituberculous treatment is carried out in conjunction with a chest physician who, together with the surgeon, monitors the patient's progress. This treatment should be continued for at least a year.

REFERENCES

- Alvik I. Tuberculosis of the greater trochanter. *Acta Orthop Scand* 1949;**19**:247-62.
- Bulla A. Tuberculosis; a pulmonary disease only? *Bull Int Union Tuberc* 1979;**54**:291-3.
- Farer L, Lowell A, Jewell S. Extrapulmonary tuberculosis in the United States 1975-1977. *Bull Int Union Tuberc* 1979;**54**:293-5.
- Lampe CE. Tuberculous osteomyelitis of the greater trochanter. *Acta Orthop Scand* 1953;**22**:307-25.
- Lindahl O. Tuberculous trochanteritis. *Acta Tuberc Scand* 1952;**26**:289-300.
- McNeur JC, Pritchard AE. Tuberculosis of the greater trochanter. *J Bone Joint Surg [Br]* 1955;**37-B**:246-51.
- Paus B. The changed pattern of bone and joint tuberculosis in Norway. *Acta Orthop Scand* 1977;**48**:277-9.
- Taylor AR, Maudsley RH. Instillation-suction technique in chronic osteomyelitis. *J Bone Joint Surg [Br]* 1970;**52-B**:88-92.
- Teale TP. On the simulation of hip disease by suppuration of the bursa over the trochanter major. *Lancet* 1870;**ii**:506-7.
- Willenegger H, Roth W. Die antibakterielle Spüldrainage chirurgischer Infektionen. *Dtsch Med Wochenschr* 1962;**87**:1485-92.