Acta orthop. scand. 45, 668–672, 1974

Department of Orthopaedic Surgery, Willingdon Hospital, New Delhi, India.

TUBERCULOUS OSTEOMYELITIS OF THE CLAVICLE

K. K. Srivastava, L. D. Garg & V. L. Kochhar

Accepted 18.ix.73

Tuberculosis has become a rare disease in advanced countries due to the general improvement of health and medial care, but it still is quite common in India.

Bone and joint tuberculosis constituted about 0.57 and 3 per cent, respectively, of all orthopaedic cases attending Willingdon Hospital, New Delhi, and the H. P. Medical College, Simla, in the last five years. Of the total of 669 cases of skeletal tuberculosis, twelve cases of tuberculous lesion of the clavicle were found.

There is little information in the medical literature regarding the incidence of tuberculous lesions of the clavicle. Sirkin & Baumgartner (1936) reviewed 30 cases of tuberculosis of the clavicle reported in the literature since 1882 (the date of discovery of the tubercular bacillus by Koch). Among 230 consecutive cases of skeletal tuberculosis, Lafond (1958) reported only one involving the clavicle. Jensen (1959) published 5 cases of tuberculous osteomyelitis of the clavicle. Feibush (1962) reported a single case of tuberculosis of the clavicle.

MATERIALS AND METHODS

Twelve cases of tuberculous osteomyelitis of the clavicle attending Willingdon Hospital, New Delhi, and the H. P. Medical College, Simla, from 1966 to 1971 were studied.

A detailed history was recorded, a clinical examination of the patients was carried out and they were investigated roentgenologically. Histopathological examination of the material was made in operated cases. Serological tests were carried out to exclude syphilis.

OBSERVATIONS AND DISCUSSION

The ratio of males to females involved was 3:2 in the previously recorded cases, whereas it was 1:2 in the present series. Average

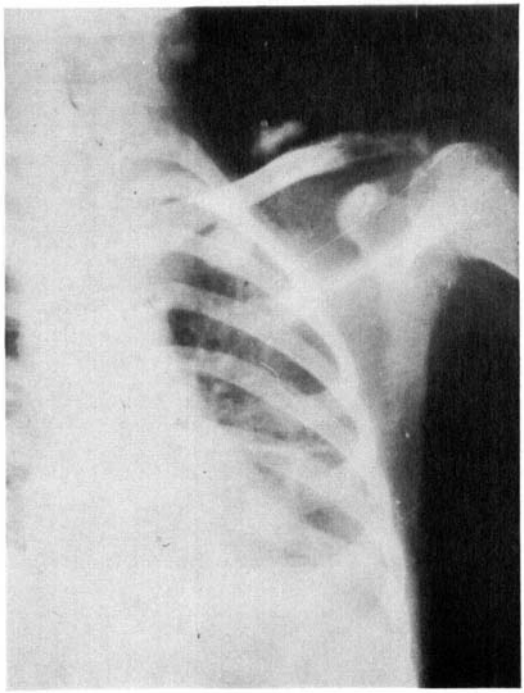

Figure 1. Roentgenogram showing a destructive lesion over the acromial end of the left clavicle.

age distribution was 23.7 years. The lesion occurred on the left side in six cases, on the right side in four cases and bilaterally in two cases. Of the two bilateral lesions, one had a lesion at both acromial and the other at both sternal ends. Out of fourteen clavicles, including the two bilateral cases, in eight the sternal ends and in five the acromial ends of the clavicle were involved. However, the lesion was diaphyseal in one case. From these observations, it is clear that the lesion starts and remains localized mostly in the metaphyseal region in tuberculosis of the clavicle (Figure 1). Sirkin & Baumgartner (1936) were, however, of the opinion that it starts in the diaphysis and then can extend to any part of the bone.

Locally presenting symptoms were chronic discharging sinuses in five cases, gradually increasing painful swelling in six cases, and depressed thin scars adherent to the underlying clavicle on both sides in one patient. General symptoms of tuberculous toxaemia such as lassitude, loss of weight, poor appetite and low grade temperature were seen in five cases only. These patients also had associated tuberculous lesions in the spine and had had no previous anti-TB therapy.

Associated skeletal tuberculosis was seen in eight out of twelve

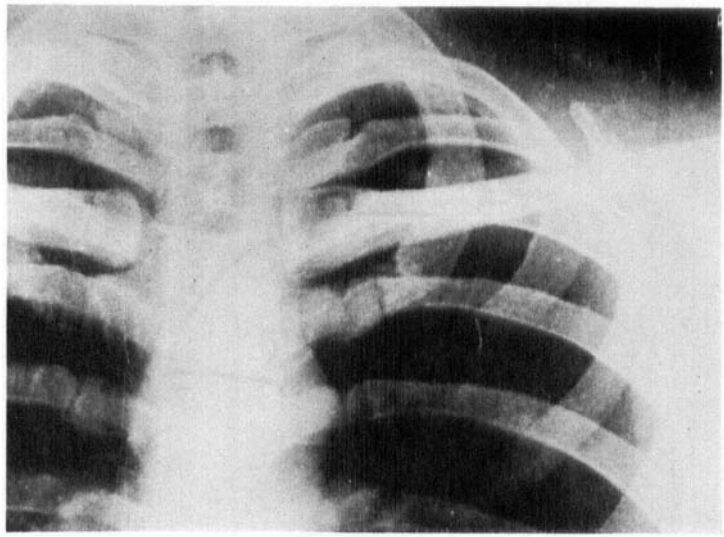

Figure 2. Roentgenogram showing a cystic lesion with a sequestrum at the sternal end of the left clavicle.

cases in our series, the number of lesions elsewhere constituting a much higher incidence of associated skeletal tuberculosis when compared with the previous authors.

Roentgenograms showed destructive lesions in four cases, cystic rarefaction in three cases, sequestrum formation in two cases (Figure 2), irregular thickened clavicle in three cases and proliferative lesion in one case. Jensen (1959) reported involvement of the articular surface of the clavicle in all cases whereas it was seen only in one case with bilateral tuberculosis of the clavicle in the present series (Figure 3a,b).

Histopathological examination confirmed the diagnosis. The material removed by curettage of the lesion in seven cases showed typical tubercle formation and caseation. Serological tests for syphilis were negative in all the cases.

Of Sirkin & Baumgartner's recorded cases, treatment was surgical in 28 patients and conservative in 2 patients. Jensen carried out a combination of surgical and anti-tubercular treatment in five cases, resulting in healing of the wound. We carried out curettage of the lesion in seven cases followed by anti-tubercular therapy and in the other five cases only conservative treatment was given. Drugs given were usually a combination-of-three injection of streptomycin 1 G.M. intramuscularly daily up to 90 to 120 gm with Isoniazid hydrazide

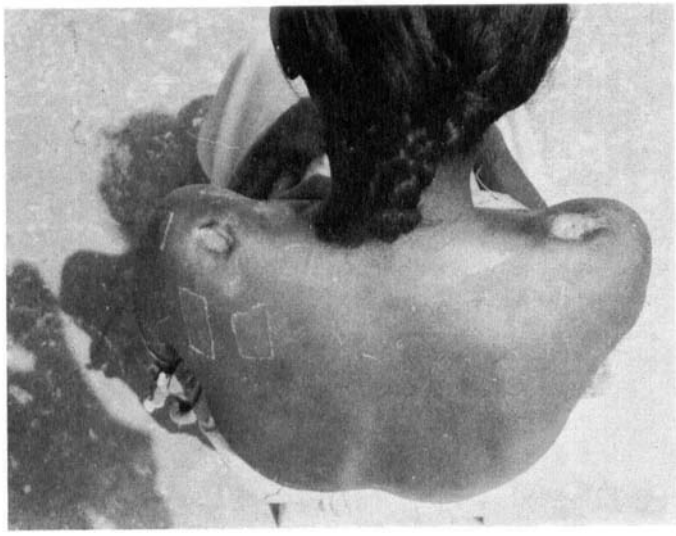

Figure 3 a. Clinical photograph of a patient showing tuberculous ulcers over both acromial ends of the clavicle.

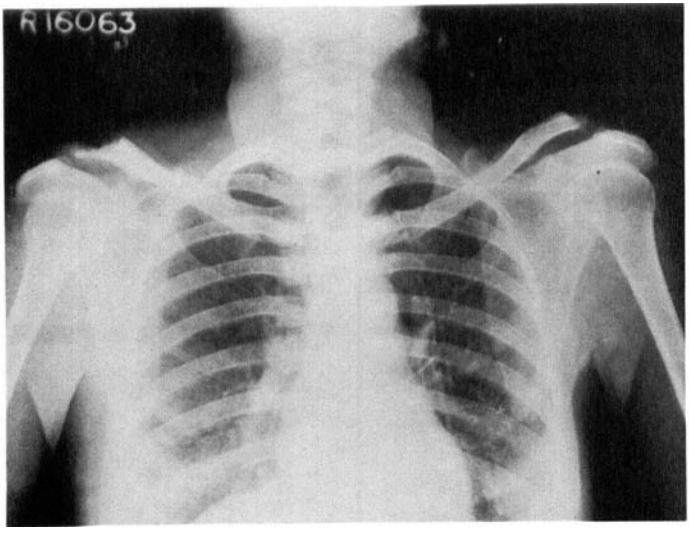

Figure 3 b. X-ray photograph of the same patient showing destructive lesions at the acromial ends of both clavicles.

300 mg and para Amino salicylic acid 10–12 gm daily for approximately 1 to 1½ years.

SUMMARY AND CONCLUSION

A detailed study of twelve cases (including two with bilateral lesion) of tuberculous osteomyelitis of the clavicle was carried out. The following points emerged from this study:

1. Tuberculous osteomyelitis of the clavicle was seen more frequently in females and usually during the second decade.
2. The lesion was localized in the metaphysis of either end of the clavicle except in one case where the lesion was diaphyseal.
3. Such lesions were commonly associated with osseous tuberculous lesions elsewhere.
4. Anti-tubercular treatment sometimes combined with curettage of the cavity and excision of the sinus tract led to healing of the lesion in all the twelve cases.

ACKNOWLEDEGEMENT

The authors would like to thank Dr. N. D. Aggarwal, Professor of Orthopaedic Surgery, Government Medical College, Patiala, and Dr. Dessgupta, Pathologist, Willingdon Hospital, New Delhi, for their constructive suggestions on the writing of this paper.

REFERENCES

Feibush, J. S. (1962) Tuberculosis of the clavicle. *J. Amer. med. Ass.* **179**, 989–900.

Jensen, S. R. (1959–60) Tuberculous osteomyelitis of the clavicle. *Acta chir. scand.* **118**, 327–330.

Lafond, E. M. (1958) An analysis of adult skeletal tuberculosis. *J. Bone Jt Surg.* **40-A**, 346–364.

Sirkin, J. & Baumgartner, E. A. (1936) Tuberculosis of the clavicle. Review of the literature and report of a case. *J. Amer. med. Ass.* **107**, 120–123.

Correspondence to:

Dr. V. L. Kochhar
3, Jung Pura-A
Mathura Road
New Delhi-14, India