CASE REPORT

V.K. Aithal · K. Bhaskaranand

Osteochondroma of the first rib presenting as a prominent clavicle**A report of 2 cases**

Accepted: 15 May 1997

Abstract We describe and discuss two patients with osteochondromas of the first rib which presented as prominence of the medial end of the clavicle.

Résumé L'ostéochondrome costal est une tumeur rare habituellement rencontrée dans le cadre d'une ostéochondromatose diffuse. Nous présentons 2 cas d'ostéochondrome de la première côte se présentant comme une proéminence de la partie moyenne de la clavicule.

Case reports*Case 1*

A woman aged 19 years presented with a history of prominence of the clavicle of one year duration. The clavicle was protuberant and subluxed at the sternoclavicular joint. Routine antero-posterior radiographs of the clavicle showed no obvious lesion, but an osteochondroma arising from the first rib was evident (Fig. 1). An oblique osteotomy of the clavicle was undertaken and a mass located at the costochondral junction of the first rib was excised. The subclavian vein was partly torn while being stripped from the tumour. The diagnosis of osteochondroma was confirmed by histopathological studies.

Case 2

A girl aged 14 years presented with a history of progressive swelling of the left clavicle of nine months duration (Fig. 2a). The mass was painless but the patient experienced radicular pain along the left upper limb. A biopsy of the clavicle which had previously been performed elsewhere was reported as being normal.

Radiographs revealed a pedunculated osteochondroma of the first rib at its costochondral junction. Through a subclavicular transverse incision, the osteochondroma was found at the costochondral junction (Fig. 2b), with the brachial plexus stretched on the mass. The lesion was excised. Two years later, the prominence of the clavicle had subsided and the patient had no radiculopathy.

Discussion

Solitary osteochondromas of the ribs are uncommon and when present they are usually a part of multiple osteochondromatosis [2]. They comprise only 2% of all exostoses of the ribs while only 8% of all tumours of the ribs are osteochondromas [3]. Except for a single case [1] there have been no reports of osteochondromas of the first rib in the medical literature.

Although the lesion was situated in the first rib in both patients, prominence of the medial end of the clavicle was the presenting feature. In one instance, a biopsy of the clavicle was undertaken elsewhere and the patient was reassured after it was reported to be normal.

Although osteochondromas do not usually cause complications, cortical erosion of adjacent bone may occasionally occur especially in the distal tibio-fibular interface [3].

Routine plain radiographs may not show the lesion. The "serendipity" view [4] provides the best image and is recommended for all lesions around the clavicle.

The surgical approach can vary but when the clavicle is subluxated or sufficiently mobile, a direct anterior approach may suffice. If the clavicle is immobile, a clavicular osteotomy may be necessary.

V.K. Aithal (✉) · K. Bhaskaranand
Department of Orthopaedic Surgery,
Kasturba Medical College and Hospital,
Manipal, Karnataka, India

Mailing address:

¹ Department of Orthopaedic Surgery, Nizwa Hospital,
P.O. Box 1222, Nizwa 611, Sultanate of Oman

Fig. 1 Patient 1. Antero-posterior radiograph showing an osteochondroma arising from the first rib

Fig. 2 a Patient 2. Pre-operative photograph demonstrating prominence of the left clavicle. b Patient 2. Intra-operative appearance of the osteochondroma

References

1. Gupta NK, Gaikwad S, Pande HK, Phansopkar M, Gupta VK (1996) First-rib exostosis bursa. *Ann Thorac Surg* 61:219–22
2. Jaffe HL (1958) Tumours and tumourous conditions of the bone and joints. Lea & Febiger, Philadelphia London
3. Mirra JM (1989) Bone tumours. Clinical, radiologic and pathologic correlations, vol 2, Third edn. Lea & Febiger, Philadelphia London
4. Rockwood CA Jr (1991) Injuries to the sternoclavicular joint. In: Rockwood CA Jr, Green DP, Bucholz RW (eds) *Fractures in adults*, vol 1. Lippincott, New York