PSEUDODISLOCATION OF THE ACROMIOCLAVICULAR JOINT

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Two patients are reported, one adolescent and one young adult, each of whom sustained a fracture separation of the lateral part of the clavicle which gave the clinical and radiological appearance of a complete acromioclavicular dislocation. At operation a longitudinal rupture was found in the periosteal envelope, and the lateral part of the clavicle was displaced through it; the joint itself and the coracoclavicular ligaments were intact. The extent of this injury can only be diagnosed at operation. Failure to operate may lead to permanent deformity.

Displacement of the clavicle through a longitudinal tear of the periosteum has only rarely been described (Katznelson, Nerubay and Oliver 1976; Weber, Brunner and Freuler 1978). Clinically and radiologically it is identical to an acromioclavicular dislocation or to a fracture of the lateral part of the clavicle with a complete tear of the coracoclavicular ligaments.

The condition is sometimes called a pseudodislocation and is probably only seen in children and young people. The mechanism of injury is compared with a “degloving” or “banana-peeling” phenomenon (Fig. 1). In cases of conservatively treated acromioclavicular dislocation and fractures of the lateral part of the clavicle with a displaced medial fragment, a possible tear of the periosteum may not be recognised. In our opinion this condition should be treated by early operative reduction and fixation. We therefore consider it worth presenting two cases, each with a tear of the clavicular periosteum.

ILLUSTRATIVE CASE REPORTS

Case 1. A 21-year-old man was injured playing football. Clinically and radiologically he appeared to have an acromioclavicular dislocation of the right shoulder (Fig. 2). At operation six days later the lateral part of the clavicle was found to be denuded and displaced through a longitudinal rupture of the periosteum. The distal end of the clavicle had a raw osseous surface while the cartilage was undisplaced and the intact joint capsule was attached to the acromion. The coracoclavicular ligaments were attached to the empty periosteal envelope (Fig. 1). The clavicle was reduced and secured by transposition of the coracoid process (Dewar and Barrington 1965), which is our usual method for treating acromioclavicular dislocation. The periosteum was resutured over the clavicle. The arm was immobilised in a fixed sling for four weeks, after which exercises were started. Eighteen weeks after the operation the patient had no complaints. The range of movement and power in the shoulder were found to be normal compared with the opposite side. One year after operation he was still free of symptoms. The screw in the transposed coracoid process was not troublesome and was left in situ.

Case 2. A 13-year-old boy fell from his bicycle on to his right shoulder. Radiographs showed a fracture of the lateral part of the clavicle with

Fig. 1

Case 1. Figure 1—Diagram to show the clavicle displaced through the ruptured periosteum. Figure 2—Anteroposterior radiograph of the right acromioclavicular region showing the highriding lateral part of the clavicle resembling a total acromioclavicular dislocation.
is also a severe lesion of the muscles (Kennedy 1968). Fractures of the clavicle lateral to the attachment of the coracoclavicular ligaments are grouped by Neer (1963) into two types depending on whether the coracoclavicular ligaments are ruptured or not. Whether operative or conservative treatment is to be preferred in these cases is debatable.

In children and young adults with a relatively loose attachment between bone and peristeme, rupture of the periosteal cuff may occur without injury to the acromioclavicular joint or the coracoclavicular ligaments. In our Case 1 the articular cartilage was retained in the periosteal cuff, possibly because the clavicle is formed by membranous ossification. When the periosteum is ruptured the lateral part of the clavicle will be highriding, as is seen in Grade III acromioclavicular dislocations and in Type 2 fractures of the lateral part of the clavicle. Clinically and radiologically it is impossible to distinguish between these conditions, and a final diagnosis is possible only at operation.

The incidence of rupture of the periosteum of the lateral part of the clavicle is not known, nor is the degree of persisting disability. Therefore when a total rupture of the coracoclavicular ligaments is suspected in a young person an operation should be carried out, because the clavicular displacement may be due to an avulsion of the periosteum.

If the lesion is left alone new bone formation from the periosteal envelope will occur, and the lateral end of the clavicle will become Y-shaped; it will be both unsightly and uncomfortable.

Holding the clavicle down by transposing the coracoid process and its attached muscles, as was carried out in Case 1, is almost certainly unnecessary. It is probably sufficient to suture the periosteum (Gronmark 1976), and to fix the clavicle to the coracoid process by cerclage. With this technique possible complications resulting from acromioclavicular transfixation can be avoided, as well as a second operation to remove the fixation material.

REFERENCES


