HUMERAL ROTATION OSTEOTOMY FOR CHRONIC POSTERIOR DISLOCATION OF THE SHOULDER

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Delay in the diagnosis of posterior shoulder dislocation is common. We present two such cases treated satisfactorily by rotation osteotomy of the surgical neck of the humerus and discuss the indications for this procedure.

Posterior dislocation of the shoulder accounts for 1.5% to 4% of shoulder dislocations (McLaughlin 1952; Rowe 1956) and the diagnosis is missed at presentation in many cases (Wilson and McKeever 1949). The humeral head becomes wedged behind the glenoid, and its anteromedial aspect is eroded. When closed reduction becomes impossible (after about two weeks), the condition becomes a chronic posterior dislocation.

Where open reduction is indicated, a further procedure is required to prevent the humeral head defect re-engaging the posterior glenoid margin and causing redislocation. Methods of achieving this include transfixion of the acromion and humeral head with crossed Kirschner wires (Wilson and McKeever 1949), subscapularis transposition into the defect (McLaughlin 1952) and posterior bone block (Roberts and Wickstrom 1971).

Rotation osteotomy of the humerus has been successfully used to treat recurrent anterior shoulder dislocations associated with large Hill–Sachs lesions (Weber, Simpson and Hardegger 1984), but there is only one reported case in the English literature of its use for chronic posterior dislocation (Vukov 1985) and one for recurrent posterior dislocation (Chaudhuri, Sengupta and Saha 1974). We report the results of rotation osteotomy in two cases of chronic posterior dislocation using a modification of the method described by Vukov.

METHODS

Operation. The patient is supine with a sand bag under the shoulder, and a standard deltopectoral approach is used to expose the joint by division of subscapularis and the capsule. Reduction of the dislocation by unhooking the humeral head from the glenoid rim may be difficult. An osteotomy of the surgical neck of the humerus is then performed. With the head reduced, the humerus below the osteotomy is internally rotated. The osteotomy is fixed with a T plate in a position which ensures that the defect is always anterior to the glenoid rim during normal movement. From this position the shoulder has a good range of movement in all directions except external rotation. The wound is closed in layers over a suction drain. Postoperatively the arm is held in a sling, and physiotherapy is started after 10 days.

Assessment. The results have been assessed using the scoring system of Rowe and Zarrins (1982), which is based on a maximum score of 100. Absence of pain scores a maximum 30 points, full movement 40, and good function 30. Results are rated excellent with 90 to 100 points, good with 70 to 89, fair with 50 to 69 and poor below this.

CASE REPORTS

Case 1. A 63-year-old man awoke with severe pain in his left shoulder. Plain radiographs and tomograms taken at his local hospital failed to reveal the correct diagnosis; he was treated for a frozen shoulder with physiotherapy, injections, one manipulation under anaesthesia, and acupuncture.

Two years later, he presented to us still complaining of incapacitating pain. A history of a possible nocturnal epileptic fit was obtained, and anteroposterior and axillary radiographs revealed a posterior dislocation with a large humeral head defect (Figs 1a,b). This was confirmed at operation, and a 40° rotation osteotomy was performed (Fig. 1c). After operation the patient’s discomfort settled spontaneously over six months.

Two-and-a-half years later the patient still has intermittent shoulder discomfort and is not able to use the arm for heavy lifting. He has 80° flexion and abduction, 45° extension, 70° internal rotation and 10° external rotation. This result is rated fair with 65 points.

Case 2. A lady in her sixties woke after a general
anaesthetic with severe pain in her right shoulder, but examination and radiographs at that time did not reveal the cause. After three weeks, she presented to us with no movement at the shoulder, and an axillary radiograph showed posterior dislocation with a large anteromedial head defect. Open reduction and humeral rotation osteotomy was performed. Five months later she had regained a full range of movement, with the exception of absent external rotation, and had lost most of her pain.

Three years postoperatively her range of movement is unchanged and she has only occasional shoulder discomfort, though she is unable to carry heavy objects. Her result is rated as good, with 80 points.

DISCUSSION

These two cases emphasise the importance of axillary radiographs in the diagnosis of chronic posterior dislocation of the shoulder; in neither case had these been taken and in both they revealed the diagnosis. Our results are similar to those reported after treatment by other available methods (Rowe and Zarins 1982), though we recognise the severe limitations of such comparisons.

We feel that rotation osteotomy is a useful option where there is a large humeral head defect, particularly when, in severe cases, the alternatives are excision or replacement of the humeral head. Further experience is required to define the exact indications for this procedure.

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REFERENCES