RECURRENT POSTERIOR DISLOCATION OF THE SHOULDER

Report of a Case Treated by Posterior Bone Block

SURGEON COMMANDER VICTOR JONES, ROYAL NAVY

Posterior dislocations of the shoulder are uncommon. McLaughlin (1952) found that of a series of 581 dislocations twenty-two were posterior, an incidence of 3.8 per cent, and Rowe (1956) found that ten of a series of 488 dislocations were posterior; six of them were recurrent. Cameron (1955) stated that one in seventy recurrent dislocations is posterior.

Möllerud (1946) emphasised the distinction between true traumatic dislocations and habitual subluxations. Traumatic dislocations are caused by severe injuries, often from epileptic or other seizures and often accompanied by fractures (Thomas 1937, Wilson and McKeever 1949). Habitual subluxations occur in young adults, spontaneously or as the result of minor injuries. Hindenach (1947) pointed out that, as suggested by Moullin and Keith (1904), there may be no tear of the capsule or detachment of the labrum glenoidale in this type of case; the luxation is permitted by an unduly lax capsule. Either type may be bilateral (Möllerud 1946, Arden 1956).

Several operations for the prevention of recurrent posterior dislocation of the shoulder have been described. Soft-tissue repairs have included Nicola’s procedure (May 1943), reattachment of a detached labrum (Zadik 1948), and reinsertion of the divided subscapularis tendon into a defect in the anterior part of the head of the humerus (McLaughlin 1952). Failures after soft-tissue operations have been frequent, and Fève and Mialaret (1938) described a repair using a posterior bone graft taken from the tibia. Ilfeld and Holder (1943) used an iliac bone block in combination with Nicola’s procedure. Hindenach (1947) described a case in which no defect of the labrum was present and which had recurred after Nicola’s and other soft-tissue operations; an iliac bone block operation succeeded in preventing further recurrences.

The case described below is one of recurrent posterior subluxation after a blow on the front of the shoulder; a defect in the anterior rim of the glenoid labrum was found at operation but no defect in the posterior rim. The case was considered to fall into the category of habitual subluxation because there was laxity of the other shoulder. After failure of a soft-tissue operation, a successful repair was effected with a posterior iliac bone block.

CASE REPORT

The patient, a youth aged seventeen, fell from a scaffolding on to his left shoulder. The front of the shoulder was heavily bruised but the shoulder was not dislocated. A year later, when he was a National Service soldier, he was shovelling earth when he felt his left shoulder “go out” as he swung the shovel to the left. On examination he was found to have a posterior dislocation of the left shoulder (Fig. 1). This was easily reduced without anaesthesia (Fig. 2) and there was little reaction afterwards, but thereafter the shoulder subluxated every time he lifted anything heavy.

Examination showed that the right shoulder also was unduly lax. He gave the history that on one occasion, when lifting a weight-lifter’s bar above his head, this shoulder had “gone out,” but it had gone back as soon as someone had taken the bar from him.

A soft-tissue repair of the left shoulder was carried out. The joint was approached from behind by a deltoid-splitting incision, the teres minor muscle being divided. The posterior capsule was intact but unduly lax. When the joint was opened it was seen that the posterior
rim of the glenoid labrum was intact, but there was a typical detachment of the anterior rim as described by Bankart (1938). There was no defect in the head of the humerus. The incision in the capsule was repaired with plication, and the teres minor was double breasted in the same way that the subscapularis is dealt with in the Putti-Platt operation. The arm was strapped to the side for four weeks.

Convalescence was uneventful but four months later, when a diesel engine he was cranking back-fired, the shoulder again dislocated posteriorly. I was asked to see him after this injury; I found that he was able to subluxate the shoulder at will and to reduce it himself. The mechanism of this phenomenon was studied under x-ray screening. It was seen that the head of the humerus moved first downwards and then backwards into a position of subluxation rather than complete dislocation. It was evident that there was marked laxity of the whole shoulder capsule.
Operation—A posterior bone block operation was done, the technique being like that described by Hindenach. The shoulder was approached from behind, the deltoïd being split and the joint exposed in the interval between infraspinatus and teres minor. The capsule was opened and it was confirmed that there was still no defect in the posterior rim of the glenoid. After closure of the capsule with plication—a step which seemed to add nothing to the stability of the joint—a piece of bone 1 1/2 × 1 inch was cut from the outer table of the left iliac crest and screwed to the back of the neck of the scapula. It was placed postero-inferiorly with a quarter of an inch of bone overlapping the outer margin of the glenoid (Fig. 3). After closure of the wound the arm was bandaged to the side; next day it was put up on an abduction frame with 45 degrees' abduction and 45 degrees' lateral rotation. This position was maintained for four weeks.
Convalescence was uneventful. Four months after operation he had regained a full range of shoulder movements (Figs. 4 and 5), and nine months after operation he was free from symptoms and had no weakness or instability of the shoulder. All movements remained full.

**DISCUSSION**

Posterior luxation of the shoulder may be permitted by three types of deficiency of the posterior part of the capsule—a tear of the capsule, detachment of the posterior rim of the glenoid labrum with stripping of the capsule from the neck of the scapula, or undue laxity of the capsule (Figs. 6 to 9). In this case the fault was undue laxity of the capsule, assisted by a defect in the anterior rim of the glenoid. The first two types of lesion may be expected in cases of true dislocation after major injury; in these, repairs on the lines of Bankart’s operation may well be successful. In habitual luxations associated with laxity of the capsule,
however, soft-tissue operations are less likely to succeed. In this type of case a posterior bone block gives a satisfactory result. It does not produce the limitation of rotation—in this case medial rotation—that occurs after a considerable proportion of Bankart and Putti-Platt operations. The outer table of the iliac crest furnishes a piece of bone that is well adapted to the curves of the neck of the scapula.

Although in the case described above the capsule was opened and plicated, this step was probably unnecessary and contributed nothing to the stability of the joint.

SUMMARY

1. A case of recurrent posterior subluxation of the shoulder is described. After failure of a soft-tissue repair, a posterior bone block operation was performed.
2. The distinction between traumatic dislocations with tearing of the capsule or of the glenoid labrum, and habitual luxations from laxity of the capsule, is emphasised. Although the anterior rim of the glenoid was detached in this case, it is considered to fall into the latter category.
3. A posterior bone block provides a simple and efficient form of repair in this type of case. It is free from the disadvantage of causing limitation of rotation at the shoulder joint; it employs a principle which might well merit more application than at present in the repair of anterior dislocations.

I wish to thank the Commanding Officer of the 33rd General Hospital, Kowloon, Col. J. W. A. McIver, R.A.M.C., for permission to publish this report and Lt.-Col. I. M. Grant, R.A.M.C., for encouragement and help in preparing the paper.

REFERENCES