INTRATHORACIC DISLOCATION OF THE HUMERUS

Esmond F. West, Adelaide, Australia

From the Orthopaedic Department of the Royal Adelaide Hospital

The patient was a Chinese man aged twenty-seven years; he was a carpenter employed in boat-building. At the time of the accident, in September 1945, he was using a brace and bit and standing on a plank at the side of a boat, which was on an elevated stage. The plank gave way and he fell to the ground, a distance of approximately twenty feet. His outstretched right arm struck another plank as he fell, and he then fell on to the outstretched limb. There were no other injuries except to the right shoulder. The medical attendant who was called found that the limb was projecting horizontally from the body and the patient presented any movement. He was admitted to hospital four hours later. There was obvious prominence of the acromion process and downward displacement of the head of the humerus. Surgical emphysema was present over the whole of the anterior chest wall. No nerve lesion could be detected. Radiographs showed that the head of the humerus was displaced from the glenoid cavity and lay inside the thoracic cavity, the surgical neck being gripped between the third and fourth ribs (Fig. 1). A large fragment had been avulsed from the greater tuberosity and remained approximately in its normal position.

Fig. 1
Intrathoracic dislocation of the humerus. The surgical neck of the humerus was gripped between the third and fourth ribs. When it was pulled out of the chest cavity, the sensation was that of extracting a large cork from a bottle.
Horizontal traction was made on the limb under general anaesthesia. The head of the humerus was felt to slip out of the chest cavity; the sensation was similar to that of extracting a large cork from a bottle. When the limb was brought to the side the head of the humerus returned to the subcoracoid position and was quite easily replaced in the glenoid cavity by Kocher's method (Fig. 2). The limb was bandaged to the side for four weeks, after which it was gradually brought up into abduction. Active movements were encouraged and the final result was satisfactory. A full range of rotation was regained, but abduction was limited to a little beyond the horizontal on account of displacement of the fragment of the greater tuberosity. He returned to work as a carpenter six months after the date of injury.

![Image](https://example.com/image.jpg)

*Fig. 2*

After applying traction, the limb was brought to the side. The head of the humerus returned to the subcoracoid position and was replaced easily in the glenoid by Kocher's method.

A search of the literature has failed to reveal any record of a similar displacement of the humeral head in cases of dislocation of the shoulder joint. It is believed that in forcibly striking the outstretched limb against an object, while falling vertically, violent abduction forced the humeral head through the lowest and weakest part of the capsule to the level of the third and fourth rib interspace, and that in falling on the outstretched hand he then drove the head of the humerus between the ribs into the thoracic cavity. The pleura was injured—as evidenced by the surgical emphysema. The greater tuberosity was doubtless avulsed by the supraspinatus tendon. One of the remarkable features of the case was the absence of nerve injury. It was also surprising that the dislocation was reduced so easily.