■ CASE REPORT

A symptomatic coracoclavicular joint

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Bilateral coracoclavicular joints were found in a 44-year-old male patient following a fall. He had an Indonesian mother and a Dutch father. Prior to the injury he was asymptomatic and had full range of movement in both shoulders but the trauma resulted in pain and limitation of movement in the left shoulder which required resection of the anomalous joint, after which full pain-free movement was restored.

A synovial coracoclavicular joint is a rare finding in humans.¹ Several osteological and radiological studies suggest a variable incidence and prevalence based on a geographic distribution.²⁻¹¹ The reported incidence varies between 0.04% and 27%.²⁻¹¹ The anomaly is more frequent in Asia than in Europe and Africa,²⁻¹¹ although it is thought to be more common in non-human primates than in humans.¹²

Case report

A 44-year-old left-handed male fell on his left shoulder in July 2003. The initial pain subsided spontaneously but function of the shoulder remained limited. A radiograph of the left shoulder was interpreted as normal. Because of the persistence of his complaints, he was referred to a general orthopaedic surgeon. On examination, abduction and flexion of the left shoulder were limited, as was rotation. An MRI and bone scintigraphy were also interpreted as normal. Electromyography showed a mild lesion of the brachial plexus. A diagnosis of frozen shoulder was made and he underwent multiple intra-articular injections of steroids and physiotherapy, without benefit.

He was referred to our centre where examination showed restricted, painful passive and active movement in the left shoulder with abduction to 45°, flexion to 60° and external rotation of 30°. With internal rotation his left hand reached the left gluteal region. The pain was located anterior to the left clavicle on elevation of the arm. The right shoulder had a full range of painfree movement. A second MRI showed bilateral synovial coracoclavicular joints, with an effusion on the left side. A CT reconstruction illustrated the anomalous joints clearly (Fig. 1). In retrospect this aber-

rant joint was visible on the plain radiographs (Fig. 2).

Treatment

We decided to resect the symptomatic joint in order to restore full pain free movement. On examination under anaesthesia there was limitation of abduction and flexion with slight restriction of external rotation. Using a deltopectoral approach, the coracoid process and the adjacent clavicle were exposed. The articular surface of an enlarged conoid process faced the horizontal part of the coracoid process. The coracoclavicular ligament was absent. The articular surface of the conoid process was covered with normal smooth articular cartilage, while that of the articulating surface of the coracoid was damaged, rough and covered with fibrocartilage-like tissue. The space between these two surfaces was narrow. On abduction of the arm, the articular facets impinged on each other limiting further abduction. After resection of the coracoclavicular joint, abduction was significantly improved.

After operation the arm was placed in a sling for comfort and mobilisation commenced as tolerated. The wound healed uneventfully and after two weeks active physiotherapy was commenced. At the last follow-up, nine months after operation, there was a full range of pain free movement in the left shoulder.

Histology

The articular surface on the clavicular side contained mature hyaline cartilage similar to that found in other synovial joints (Fig. 3). The coracoid articular surface was composed of fibrocartilage similar to that of the repair tissue seen after chondral injury, with scattered mature hyaline cartilage (Fig. 4).

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Fig. 1

A 3D CT reconstruction of the coracoclavicular joint.

Fig. 2

Initial radiograph of the anomalous joint.

Fig. 3

Clavicular articular facet. Haematoxylin & eosin (magnification x 2).

Fig. 4

Coracoid articular facet. Haematoxylin & eosin (magnification x 2).

Discussion

A synovial coracoclavicular joint is a rare finding. There are only two other reports of a symptomatic anomalous coracoclavicular joint^{13,14} and one showing radiographs of bilateral coracoclavicular joints diagnosed incidentally.¹⁵ All other reports relate to studies from osteological or radiological material.²⁻¹¹

When present, this anomalous joint itself does not usually produce symptoms. In this case the diagnosis was missed because of lack of knowledge of the possibility of such a finding, indicating that the possibility of an anomaly should always be considered when assessing standard radiographs.

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