

PRELIMINARY NOTE ON A DIARTHRODIAL ARTICULATION  
BETWEEN THE CLAVICLE AND THE CORACOID. By  
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THE specimen consists of the shoulder-girdle of a man *æ*t. 50, and shows on either side a diarthrodial articulation between the clavicle and the coracoid process. The condition is not only bilateral, but for all practical purposes symmetrical. Nothing whatever could be ascertained as to the man's previous history or occupation.

The only other abnormality noted was the presence, on each side, of a well-marked sternalis muscle.

DESCRIPTION OF THE SPECIMEN.

A. *The Scapula.*—On the ventral aspect of the coracoid process, near its root, and at the site of the normal attachment of the trapezoid ligament, is an oval facet, the longest diameter of which is half an inch. This facet was covered by a firmly adherent and thick pad of fibro-cartilage.

B. *The Clavicle.*—This bone shows a clear demarcation into two parts, *i.e.*, an *inner two-thirds*, well developed, and presenting a strong anterior convexity, and an *outer third*, relatively feebly developed, giving the appearance of a secondary buttress or girder, passing to the acromion process of the scapula.

At the junction of the two parts below and behind is a well-marked projection, at the site of the conoid tubercle. This projection presents an articular facet, which is directed downwards, backwards, and outwards, and which was covered by a firmly adherent disc of fibro-cartilage.

The joint so formed between the clavicle and the coracoid was surrounded by dense ligamentous and tendinous fibres, forming a capsule, and composed in great part of the coraco-clavicular ligament. This capsule was lined by synovial membrane, which was involuted as a number of folds into the joint by small pads of fatty tissue.

The sterno-clavicular and acromio-clavicular joints were normal.

## FREQUENCY OF THE CONDITION.

The only references which I have so far been able to find are:—

1. By Testut, who mentions having seen three cases: in a woman of 40, in a negro, and in a microcephalic idiot respectively.
2. By Sir Arbuthnot Lane, who refers to the condition as being common, though no details are given.

## ETIOLOGY OF THE CONDITION.

There are, I think, two possible views. Firstly, the condition may be a congenital one. Secondly, it may be acquired; and Sir Arbuthnot Lane's view is that in individuals who habitually carry heavy weights on the head or trunk, which require the arms to keep them in position, the shoulder joints are maintained in a position of extreme flexion. The scapula is thus fixed on the clavicle by a form of locking of the coracoid and clavicle, and this is assisted by the pressure exerted by the weight carried.

Sir Arbuthnot Lane, indeed, suggests the use of this position in breaking down adhesions round the shoulder joint, and he believes that the continued apposition of the bones leads to the formation of a diarthrodial joint. He considers the condition to be an expression of the same factor which leads to the divorce of the tendon of the pectoralis minor as the coraco-humeral ligament.

As far as I am able to judge, Lane's cases were all unilateral, and the articulation was nearer to the tip of the coracoid than in the present example. He describes, however, an articulation as occurring further back in shoemakers.

It is interesting to note that a similar articulation may occur between the inner end of the clavicle and the first rib, and also that, instead of a definite diarthrodial articulation between the coracoid and clavicle, we may get deposits of cartilage in the trapezoid ligament, or in the outer portion of the subclavius muscle.

I would venture to suggest that with regard to this specimen the only rational explanation is that the condition is congenital.

This, I think, is supported by the condition being bilateral, and by its being apparently much better marked than in any case previously reported. It is somewhat difficult to imagine it as a result of weight-bearing, which would only be likely to date from or about the attainment of the adult condition.

Testut's cases, I hold, also support this view. The alteration in the

clavicle is, I think, particularly interesting, in the light of recent views as to the ossification of the bone from two primary centres, and as to its morphology from the point of view of the occurrence of cranio-cleido-dysostosis.

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REFERENCES.

- TESTUT, *Traité d'anatomie humaine*, vol. i, p. 236.  
SIR ARBUTHNOT LANE, *Journal Anat. and Physiol.*, vol. xxii. ; *Guy's Hospital Reports*, vols. xliii. and xliv.