

## **Anatomical variations (II) / by W.W. Wagstaffe and Robert W. Reid.**

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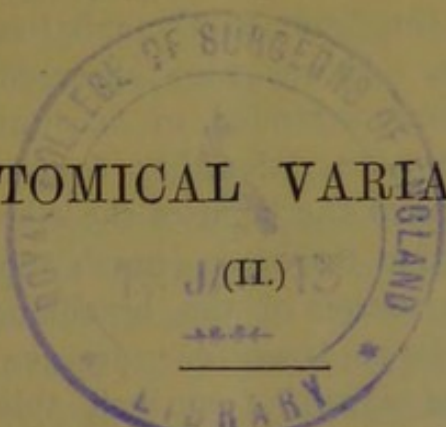


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# ANATOMICAL VARIATIONS.

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AND

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THE following are a few of the rarer varieties noticed in the dissecting room of this Hospital in the past session 1876-77, during which time thirty-six bodies have been dissected.

*Large bony growth projecting from the middle of the front of the humerus, and attached by ligament to the front of the coronoid process of the ulna.*

This variation seems worthy of record, perhaps more from its surgical interest than for any other reason. It occurred in the right arm of an exceedingly muscular male subject, æt. 71, whose occupation was unknown. It may, however, be conjectured he was a labourer, accustomed to carry heavy weights on his back, from the increased thickness and coarseness of the skin and subcutaneous tissue over the lower cervical and upper dorsal regions.

On examining the right upper extremity, the first thing noticed was that the forearm could not be completely flexed on the arm, but stopped short about midway between complete and rectangular flexion, on account of a large bony growth



projecting from the middle of the front of the arm, and in flexion pressing on the front of the soft tissues of the upper part of the forearm. It was also observed that the elbow could not be completely extended, on account of a band, easily felt underneath the skin, extending from the apex of this growth to the bottom of the bend of the elbow.

On further dissection the bony growth appeared completely concealed in the substance of the brachialis anticus muscle, and consisted of a large triangular process, four and a half inches long, and one eighth of an inch thick in most of its extent. Its base was continuous with two and a half inches of the anterior border of the shaft of the humerus, immediately below the deltoid eminence, and its apex pointed downwards and gave attachment to a ligament, which was fixed below to the tubercle and lower part of the front of the coronoid process of the ulna. The process was flattened from side to side so as to present an external and internal surface, and an anterior and posterior free border. The external surface was about three fourths of an inch broad at its broadest part, more or less smooth, a slight groove separating it from the external surface of the shaft, and at the junction of the upper and middle one third presented a small foramen communicating with the opposite surface. This surface gave attachment to the brachialis anticus in its whole extent. The internal surface was rougher and more hollowed than the external, and presented at the upper part the foramen already mentioned, and at the lower part a depression leading into a foramen for the passage of a nutrient artery. It also gave attachment to the fibres of the brachialis anticus in its whole extent. The anterior border, four and a half inches long, was more or less convex, and presented two lips with an intervening space gradually tapering towards the apex. The inner lip was much the more prominent and overhung the hollowed inner surface. This border, also, afforded attachment to the fibres of the brachialis anticus.

The posterior border of the freely overhanging process was one and a half inches long, thin and sharp and generally concave, and had attached to it a delicate connective-tissue septum, which blended with the ligament stretching from the apex of the process, and was attached to the anterior



border of the humerus from the base of the process to the anterior ligament of the elbow-joint, with which it became continuous, and thus *completely divided the brachialis anticus into two halves.*

Stretching from the apex of the process to the tubercle of the ulna and lower part of the anterior surface of the coronoid process, there was a strong ligamentous band (represented in the sketch by two parallel dotted lines) three and a half inches long and about half an inch thick, into the lower two thirds of the sides of which fibres of the brachialis anticus were inserted and from the upper one third a number of them arose. In extending the elbow-joint this band became so tight as to prevent its complete extension.

There were slight apparent evidences of rheumatic arthritis from the greater size and overlapping character of the tuberosity of the radius, and from the presence of a small nodule of bone about the size of a pea, connected with the inner surface of the capsule of the elbow-joint on its outer aspect. There was, likewise, increased roughness round the head of the humerus, and the long tendon of the biceps was partly adherent to the inner surface of the capsule of the shoulder-joint and partly arose from the upper extremity of the bicipital groove and adjoining surface of the lesser tuberosity.

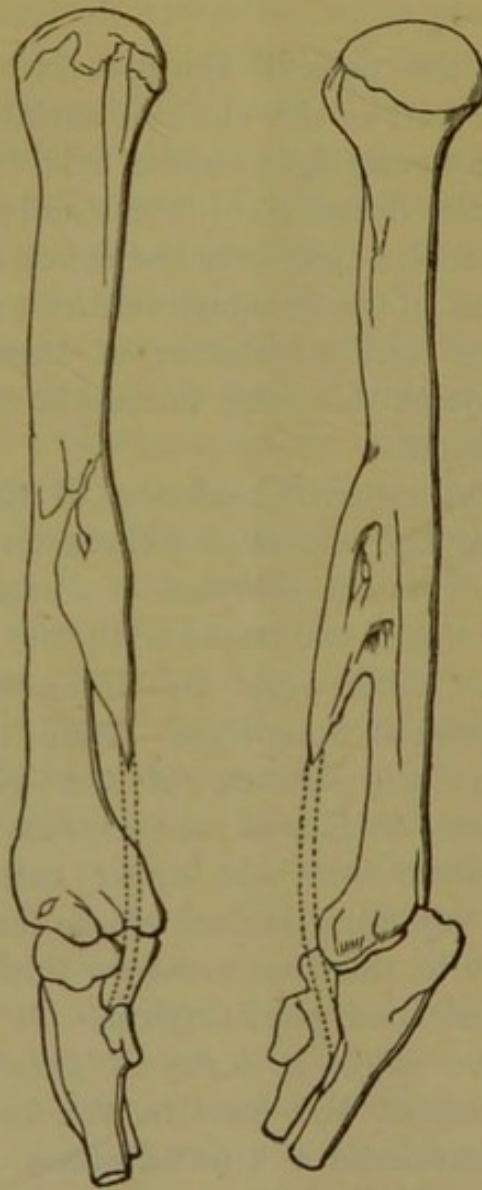
The abnormality in this case must we think be looked upon as more pathological than physiological. It does not appear to find a homologue as do so many of these irregularities in any constant process of the kind in the lower animals, but must rather be considered a true exostosis developed in the substance of the brachialis anticus and along the course of the connective tissue between parts of the muscle.

It is perhaps hardly a matter of surprise that such a development should occur by preference between the two halves of the muscle. Some indication of such a division naturally exists in the upper part, where the deltoid passes down between the two halves, and in the agouti (*dasyprocta*) the muscle is permanently divided into two halves.

It presents a striking analogy to two preparations, in the museum of St. Thomas's Hospital (Nos. C 35, C 36), of a large exostosis arising from the front of the femur, and is like them also in the bony growth being connected with the middle of



the shaft of the bone. For the drawing of the preparation we are indebted to the kindness of Mr. Stewart.



Unusual bony process growing from the humerus and dividing the brachialis anticus.

*Double omohyoid muscle.*

On the left side of an average muscular female subject this variation was seen. It consisted of a muscle, fleshy in its entire extent, arising from the anterior surface of the hyoid bone internal to the attachment of the omohyoid, and inserted mainly into the posterior surface of the sterno-clavicular articulation, blending with the outer edge of the sterno-

hyoid, another portion passing with the posterior belly of the omo-hyoid. It was of the same thickness as the anterior belly of the omohyoid, and in its course presented a curve with the convexity directed backwards in the neck. For the first two inches of its length it ran parallel with, and was separated from the anterior belly of the omohyoid by a distinct fibrous septum, and at the point where the latter muscle crossed the carotid artery it divided into two unequal parts, the main part, consisting of about two thirds of the fibres, continued downwards, lying *on* the sheath of the carotid, to its insertion in the posterior sterno-clavicular ligament, the other smaller part passed backwards to blend with the posterior belly of the omohyoid, immediately beyond the intervening tendon.

This case differs slightly from those of double omohyoid hitherto recorded. Koster and Gruber mention two cases in which upper belly of the supernumerary muscle was split, and the inner piece joined the sternohyoid. Hallett and Sels each mention a case in which the lower belly of the extra muscle ran partly into the sternohyoid or sternothyroid respectively. But we do not find any instance on record in which the arrangement was the same as in the present case. This variety will be of surgical interest from the relation of the supernumerary muscle to the common carotid artery.

#### *Varieties in the stylohyoid muscle.*

In one case there was complete absence of the stylohyoid ligament on the left side. Its place was taken by a fusiform muscle, about one third of an inch thick at its widest part, and which, from its attachments might be called the *stylo-chondrohyoidens*. It arose by fleshy fibres from the apex of the styloid process, and passed downwards exactly in the course of the ligament to be inserted into the apex and sides of the lesser horn of the hyoid bone. The ligament was carefully looked for but nowhere to be seen. The muscle of the opposite side was normal.

It is interesting as showing that the epihyal bone of many animals, represented in man by ligament, occasionally more or



less ossified, may be represented in him by a muscle, and thus approach the arrangement found in some of the Edentata, viz. that "the hyoid bone is connected to the skull only by muscles" (Huxley, 'Anat. of Vert. Animals,' p. 336).

A similar muscle to that described here has been described by Drake ('Anthropologia,' Bk. iii, ch. 17), Weitbrecht ('Comment. Petropol.,' ix, p. 256), Blandin ('Nouveaux Éléments d'Anat.,' p. 374), and Gavarde ('Traité de Myologie An.,' vii).

On the left side of a female body another curious variety was observed, and might be called the *stylo-hyo-pharyngeus*. The stylo-hyoid ligament was ossified about its centre, for half an inch of its length, and from this ossified part arose a distinct fleshy slip which passed downwards and backwards, slipping between the middle and inferior constrictors to be inserted into the side of the pharynx. In its course it passed over the stylo-pharyngeus muscle and glosso-pharyngeal nerve, and underneath the lingual artery.

#### *Extensor Pollicis et Indicis.*

This comparatively rare abnormality, which is so common among the Carnivora, was observed twice. It occurred in both forearms of one female subject and in the left one only of another. In both it had exactly the same anatomy. The muscle arose from the posterior surface of the ulna for the distance of two inches, between the attachments of the extensor secundi internodii pollicis and the extensor indicis. Its tendon having passed through a separate compartment in the annular ligament, split at the base of the first interosseous space into two equal parts, one passing outwards to blend with the tendon of the extensor secundi internodii, and the other to join the common expansion formed by the tendons of the extensor indicis and common extensor going to the forefinger. The muscle was fleshy from its origin as far as the upper border of the annular ligament, but below that point was tendinous, and had very much the same dimensions as the proper extensor indicis. Cases similar to the above have been described by Wood, Clason, and Macalister.

*Tibio Accessorius.*

This variation occurred in the left leg of a male subject, and consisted of a muscle about three quarters of an inch wide at its widest part, arising by fleshy fibres from about an inch of the middle of the posterior surface of the shaft of the tibia, internal to the origin of the flexor longus digitorum, and blending below with the inner head of the accessorius, just at the point where the external plantar vessel and nerve crossed over the latter muscle. In its course downwards it completely covered the posterior tibial vessels and nerve in the lower third of their extent, crossed over the tibialis posticus and flexor longus digitorum tendons, and passed through a special compartment in the internal annular ligament, between the flexor longus pollicis and longus digitorum. The muscle was fleshy from its origin to the upper border of the annular ligament, and below that point tendinous.

The variety is interesting from its relation to the posterior tibial vessels and nerve.

Macalister refers to this abnormality under the name of second flexor longus, but it appears to be extremely rare.



