NOTES ON TWO CASES OF ANOMALOUS RIGHT SUBCLAVIAN ARTERY

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Cases of anomalous right subclavian have been reported occasionally, but their rarity and interest from an embryological point of view, besides their possible clinical relations, warrant their addition to the anatomical literature. Holzapfel ('99) collected two hundred cases of abnormal right subclavian artery including four of his own, and discussed them from anatomical, developmental, and practical standpoints. He gave the frequency as one case to one hundred sixty-seven cadavers, or .6 per cent. Cobey ('14) gives the results of ani nvestigation for the Anatomical Society of Great Britain and Ireland as five to five hundred, or 1 per cent. The cases here reported are two to two hundred thirty-seven cadavers, or 0.8 per cent. Bean ('04) reported two cases of his own and six others in the literature besides Holzapfel's cases. Cobey and Bevier ('15) have reported each one case.

Case 1. The subject is a white male, age sixty years. The arcus aortae gives off three branches, the truncus bicaroticus, arteria subclavia sinistra, and arteria subclavia dextra, the anomalous branch. It extends in a gentle curve upwards, backwards, and to the right from the level of the lower border of the first left costal cartilage to the left side of the body of the third thoracic vertebra. This abnormal course of the arcus aortae is produced by the rotation of the base of the heart towards the left. The aorta ascendens, therefore, lies ventrad and to the left of the aorta descendens, both lying to the left of the vertebral column. The truncus bicaroticus is flattened ventrodorsally, and, of course, lies to the left of the trachea and the midline. The A. subclavia sinistra is the second branch. The third branch is the anomalous A. subclavia dextra arising from the right side of the aorta descendens at its commencement. It crosses the vertebral column behind the oesophagus and trachea, diagonally cephalad and to the right, lying on the body of the third thoracic vertebra. It is considerably dilated up to the point where it emerges from behind the oesophagus. The great veins are normal. The trachea is normal. The oesophagus shows an interesting abnormality by making a detour to the right for a distance of 10 mm. where the anomalous A. subclavia dextra emerges dorsad to it. The right vagus preserves its usual course in the thorax. The N. recurrens is absent, the cardiac branch

of the vagus, usually arising from the recurrens, being supplied directly from the vagus trunk. Three or four twigs, taking the place of the recurrens, pass from the nerve trunk directly to the larynx. The left vagus is normal in its course and branches. The N. recurrens, however, passes across the ventral aspect of the anomalous subclavian. The ductus thoracicus is normal in its course. The phrenic nerves are normal.

Case 2. The subject is a white male of advanced years. The arrangement of the arcus aortae and its branches is similar to that described in Case 1. However, the truncus bicaroticus is cylindrical, and the abnormal A. subclavia dextra is not dilated.

In Holzapfel's cases 33 were dilated out of 51 in which that feature of the abnormal artery was discussed, or 64 per cent. One of the cases collected by Bean was dilated. The clinical effects of a dilated abnormal artery are to be taken into account, therefore. Holzapfel discusses this point and concludes that only by an aneurysmal enlargement of the artery may dysphagia lusoria be considered.

Surgically the abnormal course of the artery is important in attempts at ligation; in one instance reported it offered a decided difficulty. In surgical conditions involving the oesophagus or in operations on the thorax its presence may be of considerable consequence. The internist should be interested in the possibility of its causing unequal radial pulsations. Holzapfel believes it is not the anatomical cause of left-handedness, although it is to be noted that the two conditions exist in several cases. Cobey suggests the possibility of the abnormal artery producing symptoms similar to those of cervical rib, with resulting trophic changes in the extremity.

LITERATURE

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