

A STUDY OF THE BRACHIAL ARTERY IN THE PRIMATES

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The distal part of the mammalian brachial artery may take one of two courses, medial or lateral. The medial course is followed in man in the rare cases in which the supracondylar foramen is represented, and in all mammals other than the primates, whether the supracondylar foramen is present or not. The lateral course is normally followed in man and in the anthropoids.

The question has arisen whether or not the artery follows the medial (and apparently primitive) course in the early human embryo, being replaced when the supracondylar foramen is not represented, by an entirely new (lateral) channel. The difficulty of finding an answer to this question in the human embryo itself, led to a search for indirect evidence by contrasting the conditions occurring in adult primates having and not having a supracondylar foramen. In brief, the brachial artery of the lemurs (*Nycticebus*) and the platyrrhine monkeys (*Cebus*) having a supracondylar foramen takes a medial course. The artery of the catarrhines not having the foramen (*Ateles*, *Alouatta*, *Lagothrix*) and of the catarrhines (*Nasalis*) takes the lateral course. The two channels were never found to coexist.

The arrangement of the branches suggests that the lateral channel is a distinct alternative to the medial, but does not exclude the possibility that whichever channel is found in the adult has existed as such from the beginning of development.

HISTOLOGY OF THE BRANCHIAL EPITHELIUM IN FISHES

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The problem of water regulation in fishes has been extensively studied. One of the most interesting facts which has been brought to light in this problem is that water regulation effected by the extra-renal excretion of salts is of as great importance as the regulation effected by the kidney. It has been demonstrated (Smith '32) that active secretion of salts occurs in the region of the gills in both Elasmobranchs and Teleosts.

With the above information at hand, the writer has made a histological study of the three representative groups of fishes which were available during the summer of 1932, viz., the Cyclostomi, Elasmobranchii, and Teleostei. The purpose of this investigation was to ascertain first, whether there was present in the gills of fishes any tissue which might account for extra-renal salt secretion, and second, whether the physiological differences observed in diverse classes could be accounted for on a structural basis.