3 - Clinical Anatomy

OC-029 - (23994) - STUDY OF THE RELATION BETWEEN THE HYPOGLOSSAL NERVE AND THE CAROTID ARTERIES: A CADAVERIC STUDY

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The hypoglossal nerve innervates all muscles of the tongue with the exception of the palatoglossus. In the neck, this cranial nerve crosses lateral to both the internal and the external carotid arteries. The relation between the hypoglossal nerve and these arteries was studied in detail taking as reference the bifurcation of the common carotid arteries.

Twelve formalin-embalmed adult human cadavers (6 women and 6 men) were studied. The detailed bilateral dissection of the hypoglossal nerve and of the carotid arteries was performed. After dissection, the distance between the bifurcation of the common carotid artery and the hypoglossal nerve where it crosses the internal and the external carotid arteries was measured. Statistical analysis was performed to assess potential differences regarding laterality and sex.

The median distances from the common carotid bifurcation to the point at which the hypoglossal nerve crosses over the internal carotid artery and the external carotid artery was, on the left, 21.39 mm (p25=18.83; p75=27.81 mm) and 12.97 mm (p25=6.77; p75=23.15 mm), respectively, and on the right, 23.36 mm (p25=17.77; p75=28.01 mm) and 10.94 mm (p25=7.77; p75=17.99 mm), respectively. We found no statistically significant differences regarding laterality and sex.

Hypoglossal nerve injury is a reported complication of several surgical procedures performed in the neck. This study strived to increase the detailed knowledge of the extracranial course of this cranial nerve, namely its close relation with the internal and external carotid arteries. Thus, the data herein presented might contribute to prevent hypoglossal nerve iatrogenic damage.

Palavras-chave : Anatomy,, Hypoglossal nerve,, Carotid arteries