

**Ryzhova D.V.**  
**PARAVASAL PLEXUS OF THE SUPERFICIAL TEMPORAL ARTERY  
AND THE FACIAL ARTERY OF THE HUMAN**  
**Kharkov National Medical University, Foreign Languages Department,  
Kharkov, Ukraine**  
**Supervisor : Candidate of Pedagogical Sciences, associate professor  
Kuznetsova I.V.**

Nervous system of vessels has attracted the attention of many clinicians for a long time. At the present time, accurate data on the structural organization of nerve artery adventitial plexus also have a great theoretical value, for better understanding the nerve supply of each organ.

It was a task to clarify the source of the nerve supply of the superficial temporal and facial arteries, and to get morphological information about the structural organization of the nerves, their adventitial plexus. It was found that the main sources of innervation of the superficial temporal and facial arteries are branches of the superior cervical ganglion of the sympathetic trunk and branches of the facial, chin and infraorbital nerves.

The study of macro and microscopic histological preparations of neurovascular complexes of the superficial temporal and facial arteries showed that macro-microscopic and microscopic nerve trunks form their adventitial plexus. In this case, the amount of the myelinated nerve fibers is variable from one individual to another. The adventitial plexus of superficial temporal artery is larger than the facial artery. The difference's found in newborns. On the superficial temporal artery, the proximal part of the adventitial plexus has from 3 to 8 nerves in newborns and from 7 to 15 nerves in adulthood. Adventitial facial artery plexus is respectively as follows: neonatal - from 2 to 5 and in adulthood - from 5 to 12. In adulthood adventitial plexus of both arteries occurs in approximately twice as many nerves than in newborns. In their qualitative composition plexus nerves and arteries are similar.

Both arteries of newborns consist only of thin diameter fibers. In adulthood thin myelinated fibers are present in a significant amount. Myelin fiber average diameter at this age is 8%, and fat - 5%. By total number of myelinated fibers were also more saturated adventitial plexus nerves of superficial temporal arteries. Newborn's nerves plexus of the superficial temporal artery contains between 6 to 12 myelinated fibers, and in the mature - from 44 to 68 myelinated fibers. The adventitial nerves plexus for facial artery are respectively as follows: neonatal - from 4 to 10, and in adulthood - from 27 to 46 myelinated fibers.

Accordingly, the main sources of the nerve supply of the superficial temporal and facial arteries are superior cervical sympathetic trunk node, facial, trigeminal, glossopharyngeal nerves and vagus nerves. The nerve plexus in the adventitia of superficial temporal and facial arteries are formed as a macro-microscopic and microscopic nerves diameter less than 70 microns. Quantitative and qualitative indicators of myelin structure of adventitial nerve plexus of superficial temporal and facial arteries vary with age and depend on the diameter of the vessels.

### **Аннотация**

Целью работы было изучить источник иннервации поверхностных височных и лицевых артерий и получить морфологическую информацию о структурной организации нервов, их адвентициального сплетения. Было обнаружено, что главные источники иннервации поверхностных височных и лицевых артерий это верхний цервикальный симпатический узел ствола, лицевые, тройничные, языкоглоточные и блуждающие нервы.

**Ключевые слова:** *поверхностные височные артерии, лицевые артерии, адвентициальное сплетение.*

### **Анотація**

Метою роботи було вивчити джерело іннервації поверхневих скроневих і лицевих артерій і отримати морфологічну інформацію про структурну організацію нервів, їх адвентициального сплетіння. Було виявлено, що головні джерела іннервації поверхневих скроневих і лицевих артерій це верхній цервикальний симпатичний вузол ствола, лицеві, трійчасті, языкоглоткові і блукаючі нерви.

**Ключові слова:** *поверхневі скроневі артерії, лицеві артерії, адвентициальне сплетіння.*