

MORPHOMETRIC PARAMETERS OF THE FACIAL NERVE TRUNK

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Background. In parotid tumor ablation, maxillo-facial surgery and mastoidectomy for preservation of the facial nerve trunk (FNT) integrity it is very important to identify the facial nerve (FN) course on its premandibular segment, but no less important are its morphometric parameters. The aim of the study was to determine the length and widths of the FNT on its premandibular segment, depending on the facial nerve branching pattern.

Material and methods. The research was conducted on 75 hemifaces (59 males/16 females) of adult formalized cadavers from the Department of anatomy and clinical anatomy of Nicolae Testemitanu State University of Medicine and Pharmacy of the Republic of Moldova. All the hemifaces were dissected and the course of the facial nerve was followed until the level of the facial trunk division into its primary branches. The morphometry of the FNT was carried out on all the samples and the obtained data were statistically analyzed using descriptive and inferential methods.

Results. Three main variants of the FNT course were characteristic on its premandibular segment: descending, horizontal and ascending one. Seven branching patterns of the FN were established. The mean length of the FNT in males was 11.3 mm (5-21 mm), and in females – 10.4 mm (5-16 mm); $p=0.289$. The same length of 11.1 mm of the FNT was determined on the both sides of the head, but on the right side the length varied from 5 mm to 18 mm, and on the left side it varied from 5 mm to 21 mm; $p=0.981$. Depending on the branching pattern the length of the FNT was as follows: type I – 12.2 ± 3.33 ; type II – 11.0 ± 2.54 ; type III – 11.3 ± 2.93 ; type IV – 10.3 ± 3.85 ; type V – 11.5 ± 2.08 ; type VI – 10.1 ± 2.06 ; atypical type NI – 11.5 ± 3.11 ; $p=0.578$. The width of the FNT depending on the FN branching pattern was: type I – 2.7 ± 0.49 ; type II – 2.6 ± 0.37 ; type III – 2.7 ± 0.31 ; type IV – 2.8 ± 0.55 ; type V – 2.8 ± 0.34 ; type VI – 2.7 ± 0.57 , atypical type NI – 3.0 ± 0.80 ; $p=0.950$.

Conclusions. The mean length of the FNT in males was higher than in females. The highest length was established in type I and the lowest one – in type VI. The thickest trunk was determined in atypical type NI, and the thinnest one – in type II.

Keywords: facial nerve trunk, branching pattern, length, width, morphometry.