

## SPECIFIC FEATURES OF THE INTERNAL ACOUSTIC MEATUS

Ashkar Laila<sup>1</sup>, Babuci Angela<sup>1</sup>, Zorina Zinovia<sup>1</sup>, Botnari Tatiana<sup>1</sup>, Botnaru Doina<sup>1</sup>

<sup>1</sup>Department of Anatomy and Clinical Anatomy, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova.

**Background.** The anatomical specific features of the internal acoustic meatus (IAM) are of high clinical significance in surgical access of the medial cranial fossa and in otologic surgery. The purpose of our study was to establish the anatomical variants and morphometric parameters of the internal acoustic opening (IAO) and of the IAM for a better comprehension of the course of the meatal segment of the facial nerve.

**Material and Methods.** The research was carried out on 82 dry temporal bones (41 right and 41 left) of unknown age and gender. The bones belonged to the Department of anatomy and clinical anatomy of Nicolae Testemitanu SUMPh. The external shape, length and angles that formed between the longitudinal axis of the temporal bone pyramid (LAP) and the anterior and posterior walls of the IAM were examined and measured by a ruler, a protractor and a vernier caliper. The descriptive and inferential methods of statistical analysis were used.

**Results.** The shape of the IAO varied from transverse and vertical oval shapes, to heart-like, semioval and quadrangular ones. In some cases, a partial or total septum of the IAM were revealed. The mean value of the transverse diameter (TD) of the IAO was  $7.7 \pm 2.11$  mm. On the right side the mean was  $8.2 \pm 2.22$ , and on the left –  $7.2 \pm 1.89$  mm,  $p=0.031$ . The mean value of the vertical diameter (VD) of the IAO was  $5.3 \pm 1.43$  mm. On the right bones the mean was  $5.6 \pm 1.58$ , and on the left ones –  $5.0 \pm 1.22$  mm,  $p=0.082$ . The mean length of the IAM was  $10.1 \pm 2.83$ . On the right side the mean was  $10.5 \pm 2.96$ , and on the left –  $9.7 \pm 2.67$  mm,  $p=0.214$ . The mean value of the angle that forms between the anterior wall of the IAM and the LAP was  $21.4 \pm 13.67^\circ$ . On the right side the mean was  $22.2 \pm 14.62^\circ$ , and on the left –  $20.5 \pm 12.78^\circ$ ,  $p=0.564$ . The mean value of the angle formed between the posterior wall of the IAM and LAP was  $82.4 \pm 8.02^\circ$ . On the right bones the mean was  $84.3 \pm 7.93$ , and on the left ones, it was  $80.5 \pm 7.76^\circ$ ,  $p=0.032$

**Conclusions.** Both the IAO and the IAM were variable. The morphological variants were characteristic for both sides' samples. All the examined parameters were higher on the right temporal bones.

**Keywords:** temporal bone, internal acoustic opening, internal acoustic meatus, morphometry.