36. The Results of Microsurgical Treatment of Vestibular Schwannomas Illustrated by the Last 84 Consecutive Patients and Systematic Literature Review

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Study objective is to improve the results of treating large and giant vestibular schwannomas by refining diagnostics and surgical treatment techniques.

Study materials and approaches. A prospective analysis of the results of surgical treatment of 84 consecutive patients with vestibular schwannomas (VS), who were operated on in Mechnikov Dnipropetrovsk Regional Clinical Hospital, Public Unity Service, during the period from 2011 to 2017 inclusive, has been carried out. All patients were operated on by the author of the study.

Results and discussion.

The study group included 26 (31%) men and 58 (69%) women.

2 (3,6%) patients with medium VS, 15 (17.9%) patients with moderately large VS, 37 (44%) patients with large VS and 29 (34,5%) patients with giant VS were operated on. Thus, large and giant schvannomas occurred in 78,5% of cases.

T3B stage was diagnosed only in 2 (2,4%) case, T4A was diagnosed in 42 (50%) patients, T4B (giant VSs with expressed brain compression, dislocation of ventricle IV and occlusive hydrocephalus) was diagnosed in 19 (22.6%) patients, and T5 (giant VSs with proliferation beyond the midline) was diagnosed in 21 (25%) patients.

The total removal of VS was performed in 70 (83,3%) cases, subtotal removal was carried out in 14 (16,7%) cases, and partial removal was done in 1 (1.2%) case. In the study group 2 patients died. Postoperative mortality was 2,4%.

Conclusions:

1. In the surgical series of studies patients with large and giant VSs, which were discovered in 78,5% of cases, predominate.

2. The main objective of VS surgery is a maximum complete removal of the tumor while preserving function of the brain stem, blood vessels and cranial nerves.

3. Application of modern technologies (ultrasound aspiration, trepanation of the internal auditory canal, neuromonitoring of the facial nerve function, preoperative surgery planning based on multimodal operation support) allows to increase radicality of surgeries and to improve functional outputs even for large and giant VSs.