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ASSESSMENT OF FACIAL NERVE FUNCTION AFTER RESECTION OF VESTIBULAR SCHWANNOMA

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Introduction. Vestibular schwannomas are benign tumors derived from Schwann cells of the vestibular portion of cranial nerve VIII and can occur in the internal auditory canal or cerebellopontine angle. Vestibular schwannoma comprises 85-94% of all tumors of cerebellopontine angle. One of the most serious complications in schwannoma resection using posterior cranial fossa craniotomy is facial nerve palsy. This complication happens as a result of anatomical location of facial nerve. When juxtaposed against a large tumor, the facial nerve may be displaced, flattened, and splayed, rendering it more difficult to identify and thus more susceptible to injury. Further, this facial nerve dysfunction leads to weakened mimic muscles tone, apparent changes in facial symmetry.

Aim of the study: to determine the degree of facial nerve paresis after resection of vestibular schwannoma.

Materials and methods. In this study 9 clinical cases of vestibular schwannoma are studied and analyzed. The case histories of the patients who underwent surgery for vestibular schwannoma resection during the period 2015-2018 were selected from the archive of the Minsk City Emergency Hospital. Facial nerve function of these patients was assessed according to questionnaire poll based on Haus-Brackmann scale (1985).

Results. The patients were interviewed 4 years later after treatment (2 cases), 3 years (2 cases), 2 years (1 case), 1,5 year (1 case), 1 year (1 case), half a year (1 case), 3 months (1 case). In 8 cases out of 9, the most common approach was posterior fossa craniotomy, 1 case – retrosigmoid craniotomy. Before surgery, facial paresis was not observed in all the cases except the two ones, in which the patients were treated for vestibular schwannoma relapse. In those cases the facial nerve paresis occurred as a result of primary tumor removal. In 2 cases facial nerve was impossible to preserve without disturbing anatomical continuity thus leading to 6th grade facial nerve dysfunction (total paralysis). In postoperative period, facial nerve paresis occurred in all the cases. According to Haus-Brackmann scale, all the clinical cases of postoperative facial nerve paresis were distributed as follows: 2nd grade (mild dysfunction) – 3 out of 9; 3rd grade (moderate) – 1 out of 9; 4th grade (moderately severe) – 1 out of 9; 5th grade (severe) – 2 out of 9. 1st grade (normal function) in this study was not observed among the patients

Conclusion. This study reveals that postoperative facial nerve paresis persists in all the patients who underwent surgical treatment for vestibular schwannoma resection. The facial nerve dysfunction occurred only after surgery except those cases where treatment was carried out for vestibular schwannoma relapse. The most common grades of facial nerve dysfunction mentioned in this study are mild, severe, and total paralysis.