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3 out of 145 patients with TPC tumors operated with RSSA application died. Postoperative mortality in the study group was (2.1%). 2 patients with VS and 1 patient with TPC meningioma died. In all those three cases mortality was not connected with the approach itself.

Own experience and literature analysis allow to make the conclusions about advantages and disadvantages of RSSA application.

Conclusions:

1. RSSA is a safe and relatively simple technique with a very low percentage of complications.

2. RSSA provides an excellent panoramic examination of the entire TPC and a wide opening of the tumor regardless of its type and size.

3. At all stages dissection is performed under a direct visual control, in such a case the location of the cranial nerves can be determined at an early stage, thus increasing the chances of preserving the nerves and allowing radical removal of the tumor.

4. Enhancement of the approach possibilities can be achieved by implementing the retrosigmoid suprameatal or inframeatal approach (using the technique of M. Samii), or supplementing the RSSA of C1 vertebra hemilaminectomy / laminectomy.

31. Modern Approaches to Diagnosis and Microsurgical Treatment of Large and Giant Cerebellopontine Angle Meningiomas

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Purpose: improve functional outcomes of patients with cerebellopontine angle (CPA) meningiomas through advanced preoperative diagnosis and application of up-to-date surgical technologies and methodological approaches.

Materials and Study Methods

We conducted prospective analysis of examination and treatment of 43 consecutive patients with CPA meningiomas who underwent treatment in Neurosurgical Department of Mechnikov Clinical Hospital from 2010 to 2017 inclusive. All patients included in the study were operated by the author.

CPA meningiomas were removed in a lateral decubitus position with a retrosigmoid approach using the following equipment: microscopes (OPMI

VARIO 700 and S88, Carl Zeiss), electric bone trephins (Aesculap, Stryker), ultrasound dissector aspirator (Soring), high-frequency coagulation (Soring, Codman) using ISOCOOL bipolar coagulation forceps (Codman), NIM 2.0 and NIM 3.0 intraoperative neuromonitoring system (Medtronic).

Study Results

37 (86%) women and 6 (14%) men were operated. Patients age ranged from 31 to 76, avg. = 55.4 ± 10.1 . Type A tumor expansion as per to T. Matsushima's classification was diagnosed in 6 (14%) cases, type B tumor expansion in 5 (11.6%) cases, type C in 16 (37.2%) cases, type D in 15 (34.9%) cases, and type E in one (2.3%) case.

Moderately large CPA meningiomas were diagnosed in 7 (16.3%) cases, large meningiomas in 16 (37.2%) cases, giant meningiomas in 20 (46.5%) cases. Thus, the study group had mainly (83.7%) large and giant meningiomas.

In 38 (88.4%) patients, total removal was performed, in 5 (11.6%) patients subtotal removal was performed.

1 patient (76) died following the surgery. The cause of death was acute cerebrovascular accident, ischemic type, in contralateral ICA circulation on day 7 after total removal of large type D meningioma. Thus, mortality in the study group was 2.3%.

Conclusions. Preoperative thorough examination of patients to determine tumor type, matrix location, and position of cranial nerves and vessels (arteries and veins) allows to correctly plan surgical intervention (determining the need to extend standard retrosigmoid approach, sequence of steps, and adequate interneural areas for tumor removal). Application of modern technologies and equipment allows performing radical tumor removal with satisfactory functional outcomes.