

49. Telovelar Approach to Fourth Ventricular Tumors

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Objective: analyze the results of applying the telovelar approach in the fourth ventricular tumor surgery.

Materials and methods. A prospective study of 14 consecutive fourth ventricular tumor patients treatment in Mechnikov Dnipropetrovsk Regional Clinical Hospital in 2010–2017 was conducted. All patients were operated by the second author of the study.

Patients included 6 women and 8 men. Patients age ranged from 34 to 59, avg. = 45.9 ± 10.6 . Patients breakdown by tumor histology: grade 2 ependymoma, 5; anaplastic ependymoma, 3; cholesteatoma, 2; grade 1 subependymoma, 2; hemangioblastoma, 1; choroid papilloma, 1.

Study results. Postoperative mortality was 0. In 6 cases, an endoscopic assistance was used during the surgery. Total tumor removal was performed in 10 patients, subtotal removal as performed in 3 patients, and partial removal in 1 patient. In three patients, in the presence of decompensated hydrocephalus, the surgery was supplemented with implanting of ventriculocisternal anastomosis. Depending on tumor histology and removal degree, 6 patients underwent a postoperative course of spinal cord and brain irradiation. 3 months following tumor removal, hydrocephalus developed in one patient, which required implanting of CSF shunting system.

Conclusions. The key benefits of telovelar approach are early brain stem and posterior inferior cerebellar artery identification and preservation and possibility to assess potential tumor attachment in respective regions. Endoscopic assistance has the following advantages: complete examination of cerebral aqueduct and lateral recesses of the fourth ventricle without additional displacement or dissection of cerebellar vermis, early examination of vascular and neural structures, which eventually decreases the volume of approach and traction of cerebellar and brain stem structures and ensures more radical tumor removal.

Keywords: telovelar approach, fourth ventricle, brain stem, ependymoma; cholesteatoma, cerebellar vermis, endoscopy.