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## МАТЕРИАЛЫ X АЗИАТСКОГО КОНГРЕССА НЕЙРОХИРУРГОВ



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proven adenomas treated in period 2009-2013 were selected. Altogether, 9 pituitary adenomas were resected transcranially, 437 endonasally. Intraoperative MRI was not performed in 24 cases (5,5%) due to various reasons (in majority of cases due to non-compatible pacemaker or other implant, extreme obesity, emergent night surgery, failure of transportation system, etc.). Altogether, 413 pituitary adenomas were resected endonasally with intraoperative MRI. The goal of the surgery (either radical or subtotal resection) was set before the day of surgery.

**RESULTS:** Radical resection was planned in 244 cases. Subtotal resection was planned in cases of cavernous invasion lateral to ICA, in parasellar of pituitary adenoma invasion, complex recurrent or multilobulated adenoma.

In 200 cases out of 413 any residual adenoma was disclosed on iMRI. Resection after intraoperative was performed in 104 cases (26%). Final rate of radical resection was 262 (63%). Complications: CSF leakage in 4,3%, unilateral amaurosis 0,4%, mortality 0,4%.

**CONCLUSIONS:** Routine application of intraoperative MRI is fully justified, enables to increase the rate of radical resections. Routine application of intraoperative MRI shows more clearly the value of this technique than highly selected series of intraoperative MRI. Supported by IGA 14256.

#### OP-106[Neurooncologic Surgery]

### EPIDERMOID AND DERMOID CYSTS OF THE CENTRAL NERVOUS SYSTEM: SURGICAL RESULTS

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**INTRODUCTION - OBJECTIVE:** Epidermoid and dermoid cysts of the central nervous system are usually developmental, benign tumors that arise when retained ectodermal implants are trapped by two fusing ectodermal surfaces. Together they compromise 1 - 1.5% of all brain tumors. The aim of the current study was to define the clinical course and results of surgical treatment of dermoid and epidermoid cysts, depending on their location and tumor type.

**METHOD:** A retrospective analysis of 16 consecutive surgical interventions on brain epidermoids and dermoids (4 dermoid cyst, 12 - epidermoid cysts) that were treated at the Uzhhorod Regional Clinical Center of Neurosurgery in the period from January 2009 to February 2013. Localization of the tumours: epidermoids (cerebellopontine angle - 6 patients, lateral sulcus - 4 patients, parietal lobe and spinal cord - 1 patient each); dermoid cysts (suprasellary - 3 patients, IV ventricle - 1 patient).

**RESULTS:** 13 patients underwent total removal of dermoid and epidermoid cysts, which was confirmed by control MRI, in 3 - a small part of the tumor capsule, closely linked with one of the large vessels of the brain was left. The median follow-up of the study was 3.1 years. The results of the treatment were assessed according to Karnofsky scale: more than 60 points - 16 patients.

**CONCLUSIONS:** The only effective treatment for epidermoid and dermoid tumors is surgical removal. Careful microsurgical removal of these tumors can achieve satisfactory results and long-term remission. There is no influence of tumor localization on surgical results of the treatment.

#### OP-107[Neurooncologic Surgery]

### TRANSCRANIAL ENDOSCOPIC SKULL BASE SURGERY: OUR EXPERIENCE AND RESULTS

Yuri G. Shanko, Andrey L. Tanin, Arnold F. Smejanovich, Vitali A. Smejanovich, Eduard N. Vasilevich, Andrey I. Chuhonskij, Sergey K. Stankevich, Vladimir A. Zhuravlev, Ekaterina V. Odnobludova  
Republican Research and Clinical Center of Neurology and Neurosurgery

**INTRODUCTION - OBJECTIVE:** To develop and to implement fully endoscopic transcranial techniques in skull base surgery.

**METHOD:** During the period from June 2013 to April 2014, we have developed and implemented a number of surgical approaches for fully endoscopic transcranial interventions in skull base surgery. Surgical procedures were carried out under monoportal access video monitoring using neuroendoscopic racks "Carl Storz" (Germany) with 0°, 30°, 45° optics; skin incision and soft tissues up to 5.0 cm, osteoplastic craniotomy between 1.5x2.0 cm (anterior and middle cranial fossae) to 2,0x2,0 cm (posterior fossa)

**RESULTS:** Using fully endoscopic transcranial technique we operated on 60 patients, among them there were 27 patients with tumors in the anterior cranial fossa (25 meningiomas and 2 craniopharyngiomas), 2 patients with nasal liquorrhea, 14 patients with meningiomas of the sphenoid bone wings, 14 patients with tumors of the posterior fossa (10 vestibular schwannomas, 4 pyramid rear surface meningiomas), 2 patients with trigeminal neuralgia and 1 - with sphenopetroclival meningioma (partial removal of the tumor in 72 year old patient).

Lethal outcome or inflammatory complications were not observed. Patient's rapid recovery took place after surgical interventions.

**CONCLUSIONS:** Initial experience in fully endoscopic transcranial interventions in skull base surgery indicates that this minimally invasive technology might become an alternative to standard microsurgical operations.

#### OP-108[Neurooncologic Surgery]

### CRANIOPHARYNGIOMA REMOVAL VIA SUPRAORBITAL KEYHOLE APPROACH

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**INTRODUCTION - OBJECTIVE:** For anterior surgical approaches to the suprasellar lesions, a relative larger craniotomy was always required in order to facilitate illuminating deeply several years ago. The improvement of surgical techniques, as well as the development of diagnostic imaging and the introduction of neuroendoscope, allows us to manage various intracranial lesions through a small keyhole. Although the supraorbital keyhole approach has nowadays gained ground in the surgeries of aneurysms and pituitary adenomas at suprasellar region, there are few descriptions of craniopharyngioma removal via such approach.

**METHOD:** 17 patients with craniopharyngiomas were experienced 18 surgeries to remove lesions via the keyhole approaches, including 17 supraorbital and 1 pterional keyhole approaches. The head MRI, ophthalmological and endocrinological assessments were conducted pre- and postoperatively to evaluate therapeutic effects.

**RESULTS:** Total resection of craniopharyngioma in 12 surgeries and subtotal resection in 6 surgeries were achieved. Obstructive hydrocephalus in 5 cases was resolved in one session after removal of lesions. Visual acuity and visual field improved in 7 cases after operations, aggravated in 3 cases however, and 2 of them alleviated after hyperbaric oxygen therapy. 8 patients experienced postoperative electrolyte disorder and diabetes insipidus temporarily, and 1 patient suffered from disturbance of consciousness for two days after resection of lesion.

**CONCLUSIONS:** The supraorbital keyhole approach offers surgical possibilities with effective resection of lesion and less approach-related morbidity compared with the conventional craniotomy approaches in the surgery of craniopharyngiomas. It is most beneficial to remove lesions infiltrated into the third ventricle on account of recanalization of the obstructive cerebrospinal fluid pathway.

#### OP-109[Neurooncologic Surgery]

### AMYGDALAEORIGINATED TUMORS A FORMIDABLE SURGICAL ENTITY, MICROSURGICAL TECHNIQUE TO SAVE FUNCTION AND CURE EPILEPSY LOCATED IN AMYGDAL REGION

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**INTRODUCTION - OBJECTIVE:** Mesial temporal structures are notorious causes of epilepsy and although they have placed in strategic anatomical location they have been removed ending to epilepsy control and even cure.

Amygdala well known element in limbic system has documented role in epileptogenesis located across the temporal horn just above the hippocampus and despite its famous neighbor has no clear and anatomically reliable boundary to its nearby indispensable neural structure like internal capsule basal ganglia and optic pathway

**METHOD:** among the mesial temporal surgeries (113 cases)

During 2005-2013 46 cases for MTS and 67 cases temporal lobe tumors involving mesial structures 4 cases can be considered primary amygdala tumors and one case due to autohippocampectomy by temporal horn epidermoid which has made amygdala region the only culprit of epilepsy etiology has been selected.

**RESULTS:** in this regards we discuss fully surgical strategy and approach to this very rare lesion and especially crucial role of neuronavigation in reaching this deepest epileptogenic focus in human brain. And anatomical relationship and how the epilepsy surgeon should care about them will be demonstrated

**CONCLUSIONS:** although primary amygdala tumors are rare they are one of most challenging neurosurgical tasks and its safe treatments demand careful and well judgmental surgical decision making and practice.

Profound knowledge of anatomy mastering microsurgical skill and use of modern neuronavigation tools will help the surgeon end up with beautiful surgery, saving important neural structure and cured and well saved patient.

#### OP-110[Neurooncologic Surgery]

### FEATURES OF CLINICAL PRESENTATION AND SURGICAL TREATMENT OF BRAIN CONVEXITY TUMORS

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**INTRODUCTION - OBJECTIVE:** Postoperative neurological complications in patients with brain tumors are remaining as an actual problem, which brings social, economic and moral damage to society. Various electrophysiological modalities can be used to detect subtle signs of neurological compromise before they become fixed deficits. The use of intraoperative monitoring can reduce significant neurological deficits in the appropriate circumstances.

**METHOD:** We have observed 50 patients with convexity localized brain tumors in our scientific center. Age of patients ranged from 18 to 60 years, there were 30 females (60%) and males - 20 (40%). Patients were divided into 2 groups, 1st group received surgical treatment under control of EMG of somatosensory and motor evoked potentials, 2nd group of patients were operated without EMG monitoring.

**RESULTS:** Postoperative outcome in 21 patients (84%) were not observed any neurological deficit and merely 4 (6%) patients had transient pyramidal disorders, manifesting as a hemiparesis with muscle