The caloscopy in treatment of adhesive spinal arcachnoiditis and spinal arachnoid cysts
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Introduction: Adhesive spinal arachnoiditis and arachnoid spinal cysts are rather common problems, but methods of surgical mini-invasive treatment for these diseases are still questionable. The newest method of surgery for intrathecal adhesions is thecaloscopy – exploration of spinal subarachnoid space with ultra-thin flexible endoscope.

Objectives: Objective of our study was to assess possibilities of thecaloscopy in treatment of posttraumatic spinal arachnoiditis and spinal arachnoid cysts.

Methods: All studied 17 patients undergone neurological examination and MRI of altered spine level. After verification of adhesive arachnoiditis (10 patients) or arachnoid cysts (7 patients), we performed surgical operation including less invasive surgical approach (1-1.5-level laminectomy), dura opening and insertion of 1.2-mm flexible thecaloscope (Karl Storz). After exploration of subdural space and pathologic lesion we performed endoscopic perforation of cyst or dissection of adhesions using special instrumentation. Results were assessed by neurological follow-up and post-op MRI.

Results: Intra-operatively full visualization of altered zone was possible in all cases. Area of exploration is not limited and spreads from upper-cervical level to cauda eqina (independently on surgical approach level). Perforation of adhesions or cyst walls let us restore physiological CSF circulation and explore all subdural spaces closed to altered level(s). There were no intra-operative (e.g., bleeding, dura perforation etc) or post-operative complications. Patients were discharged on days 5 and 6. Neurological improvement was seen in all cases; no cases of neurological deterioration were seen. During follow-up period, neurological status was stable; no MRI relapses were seen.

Conclusions: Although limited size of studied group, it was stated that usage of thecaloscopy is efficient and safe method. Taking into account, that adhesive spinal arachnoiditis is systemic process and spinal arachnoid cysts can be extended as well, thecaloscopy is the most radical and less-invasive way of surgical treatment existing currently in neurosurgery.