

Endoskopisch - assistierte Neurochirurgie bei intraventrikulären Tumoren

Surgery of the third and lateral ventricle under endoscope assisted keyhole conditions

Patra Charalampaki¹, Filippi, Ronald², Welschehold, Stefan²,
Conrad, Jens², Perneczky, Axel²

¹Neurochirurgische Universitätsklinik Mainz

²Neurochirurgische Universitätsklinik

OBJECTIVE

Intraventricular tumors are mostly managed by approaches and microsurgical techniques that needed retraction and dissection of important brain structures. Since the evolution of neuroimaging, minimally invasive endoscopic procedures achieved a remarkable alternative to conventional microneurosurgical techniques. Endoscope assisted microneurosurgery, associated with further endoscopic procedures, such endoscopic third ventriculostomy, pellucidotomy, may be a minimally invasive technique with maximal effective treatment.

METHODS

We treated 35 patients (16 female and 19 male) with tumors in the lateral (8) and the third (27) ventricle. The mean age at the date of surgery was 40 years, ranging from 5 years to 73 years. The follow-up period ranged from 6 months to 83 months. The tumors were operated by transcortical, transcallosal, suboccipital trans- or infratentorial supracerebellar approaches, after precise planning of the skin incision, the trepanation and the trajectory to the center of the tumor, performed before by a current MRI.

RESULTS

Total removal of the tumor was achieved in 28 patients (78,5%). In 2 patients (6,5%) recurrent tumor occurred. In 5 patients (15%) parts of the tumors remained, because of infiltration of eloquent areas. Overall clinical improvement was achieved in 31 (87%) patients. Three patients (10%) were unchanged and 1 (3%) was deteriorated.

CONCLUSION

Endoscope assisted key-hole neurosurgery seems to be a safe method to remove tumors in all regions inside the ventricular system with a low risk of permanent neurological deficits.