Endoscopic Neurosurgery for 665 Cases of Intracranial Lesions: A 13-year Experience

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Introduction

Endoscopic neurosurgery has been widely used for intracranial lesions. We aim to explore the application of endoscopic neurosurgery for intracranial lesions based on a 13-year experience.

Methods

The clinic data of 665 patients with intracranial lesions, who underwent endoscopic neurosurgery in our department from May 1998 to May 2011, were reviewed retrospectively. For 316 cases with hydrocephalus, endoscopic third ventriculostomy (ETV) was processed in 248 cases, septa pellucidum fenestration in 38 cases and choroid plexus coagulation in 24 cases. 57 cases with septum pellucidum cysts and 115 cases with arachnoid cysts were performed with cysto-ventriculostomy. For 157 lesions in ventricular system, cyst wall resection and cysto-ventriculostomy were performed for cysts in the ventricles in 50 cases, ETV and endoscopic biopsy was in 64 cases with intraventricular or paraventricular tumors and complete endoscopic removal was in 43 cases. Intracranial hematoma was treated in 20 cases. Surgical indications and clinical results were summarized and analyzed.

Results

Endoscopic neurosurgery was performed successfully in 661 cases, 2 failed and were performed with other operations, and endoscopic biopsy failed in 2 cases. In a short period after surgery, the total effective rate (symptoms resolved) was 90.7% (603), symptoms not improved was in 59 cases (8.9%) and 3 died (0.4%). Six months after the surgery, hydrocephalus recurrence was detected in 29 cases (9.2%). Failure of neuroendoscopic ostomy for intracranial arachnoid cysts was detected in 52 cases (45.2%), for septum pellucidum cysts was in 34 (59.7%), and for cysts in the ventricles was in 12 cases (24.0%). Complete endoscopic removed tumors in 43 cases recurred in 2 cases.

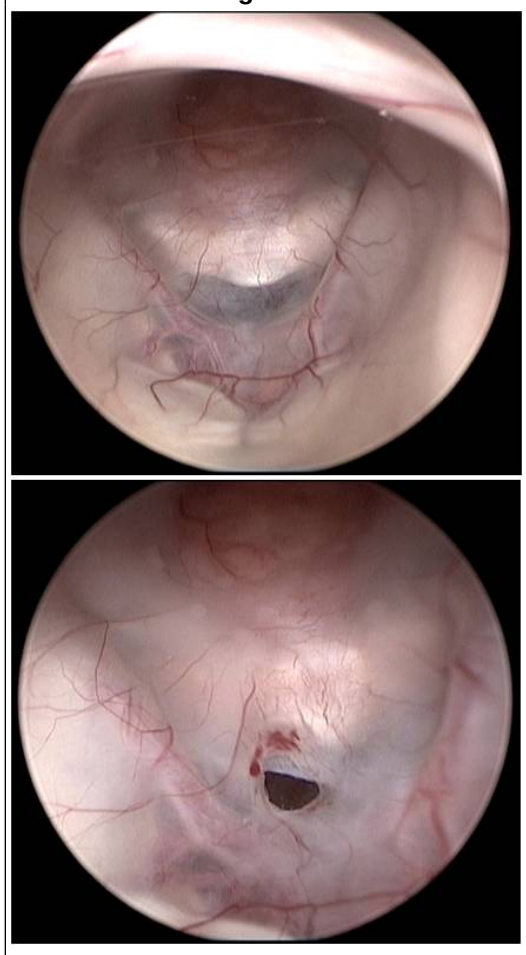
Conclusions

ETV is effective in the treatment of obstructive hydrocephlus, but the indication should be strictly controlled when it is performed with children. Effective rate of neuroendoscopic treatment for intracranial arachnoid cysts and septum pellucidum cysts is not so satisfactory, so the operation indications should be strictly controlled.

Learning Objectives

By the conclusion of this session, participants should be able to: 1) Describe the importance of operation indications when endoscopic neurosurgery is applied for intracranial arachnoid cysts and septum pellucidum cysts. 2) Discuss the application of endoscopic neurosurgery for hydrocephalus and lesions in ventricular system.

Figure 1

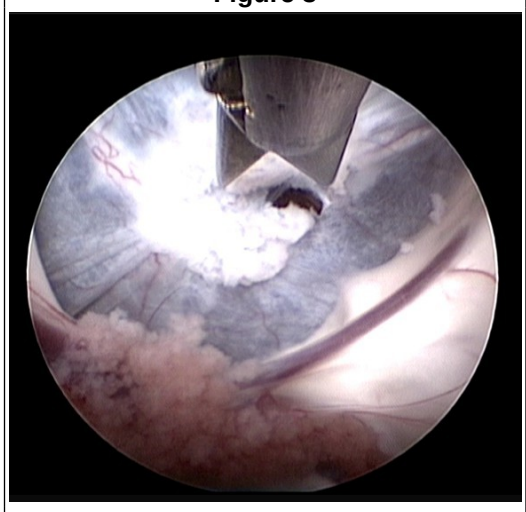


ETV for hydrocephalus

Figure 2

Tumor biopsy

Figure 3



Cysto-ventriculostomy