

Introduction

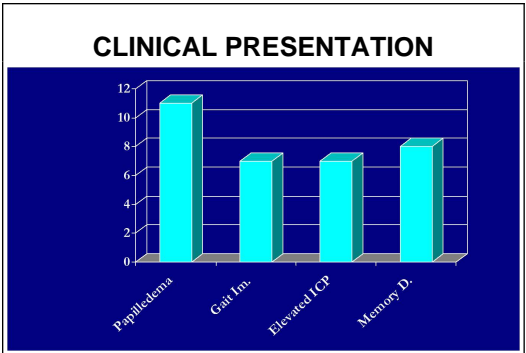
In ventricular tumors causing obstructive hydrocephalus neuroendoscopy has gained even more appeal as a first choice procedure since it is possible to simultaneously perform tumor biopsy and endoscopic third ventriculostomy (ETV) or septostomy. The immediate relief of intracranial hypertension and the availability of specimens for a pathological diagnosis allow time for planning the most suitable treatment strategy based on histological diagnosis and CSF tumour markers. In fact, in a subset of ventricular or paraventricular tumors further surgical ablation is not required and the endoscopic procedure may be the only surgical procedure necessary.

Methods

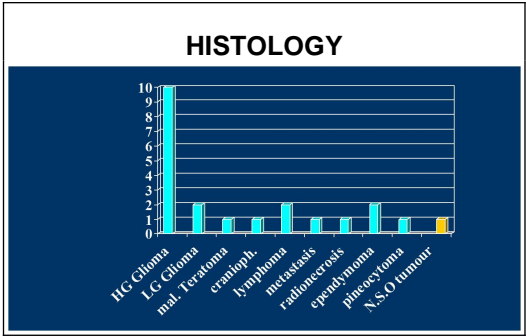
A total of 22 patients with new diagnosed intra- or paraventricular tumors and ventricular dilation at MRI underwent neuroendoscopic biopsy. Age ranged from 8 to 79 years. No patient affected by colloid cyst was included. The tumor was in 13 in the lateral ventricle, in 9 in the third ventricle.

Results

In 21 patients neuroendoscopic tumor

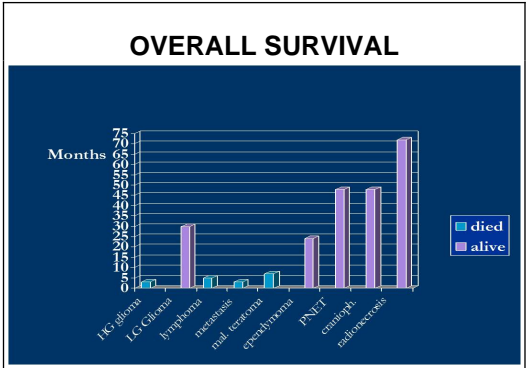


biopsy was performed. In addition to the tumor biopsy, 9 patients underwent endoscopic third ventriculostomy (ETV) and 5 septum pellucidotomy, improving the clinical status. In 8 patients with vascularized tumor, the bleeding by using Tu laser was stopped. In 20 tumors histological diagnosis was obtained, but in one PNET only after microsurgical removal. After the diagnosis, a therapy was performed: in 4 surgical removal, in 16 chemo or/and radiotherapy. In 2 pineal low grade glioma the ETV plus biopsy were the only necessary therapy.



COMPLICATIONS in 22 PROCEDURES

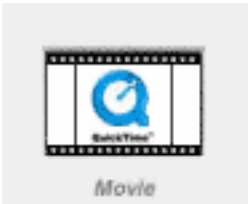
- 1 Intratumoral Hemorrhage (too many samples)
- 1 Temporary EDV (for severe bleeding)
- 2 Partial Epilepsies
- No Mortality
- No Permanent Focal Deficit (by endoscopy)
- 1 Procedure abandoned (neuronavigation failure)



PINEAL LOW GRADE GLIOMA



Fig. 1 MRI pre ETV and biopsy



References

1. Neuroendoscopic biopsy of ventricular tumors: a multicentric experience. Oppido PA, Fiorindi A, Benvenuti L, Cattani F, Cipri S, Gangemi M, Godano U, Longatti P, Mascari C, Morace E, Tosatto L. Neurosurg Focus. 2011 Apr;30(4):E2

PINEAL LOW GRADE GLIOMA

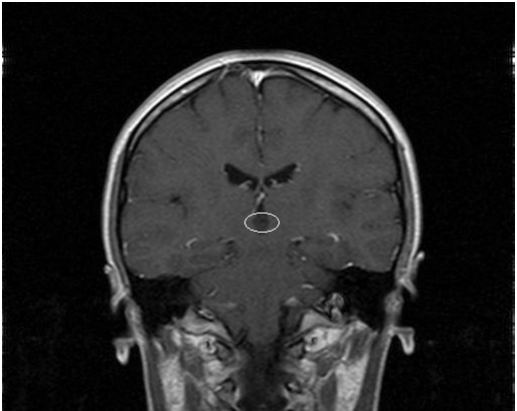


Fig. 2 MRI 1 year post ETV and biopsy

Conclusions

This overview confirms that neuroendoscopic biopsy (NEB) of ventricular tumors is safe and effective. NEB provided significant pathological diagnosis in 20/21 of the patients, following a specific treatment regimen, as possible. Furthermore, in 14 pts. (66%) the CSF pathways with the same procedure were restored by ETV or septum pellucidotomy to control intracranial hypertension, improving the clinical status for subsequent treatments. In low-grade glioma the ETV plus biopsy were the only surgical procedure necessary. Based on our experience, NEB has to be considered also a basilar step in the diagnosis and therapy of ventricular tumors to choose the correct treatment.

Learning Objectives

By the conclusion of this session, participants should be able to 1) describe the importance of decision making in ventricular tumors therapy 2) discuss in small groups on the indications for neuroendoscopy 3) identify an effective treatment for ventricular tumors