

ENDOSCOPIC RECONSTRUCTION OF CSF PATHWAYS IN VENTRICULAR TUMORS

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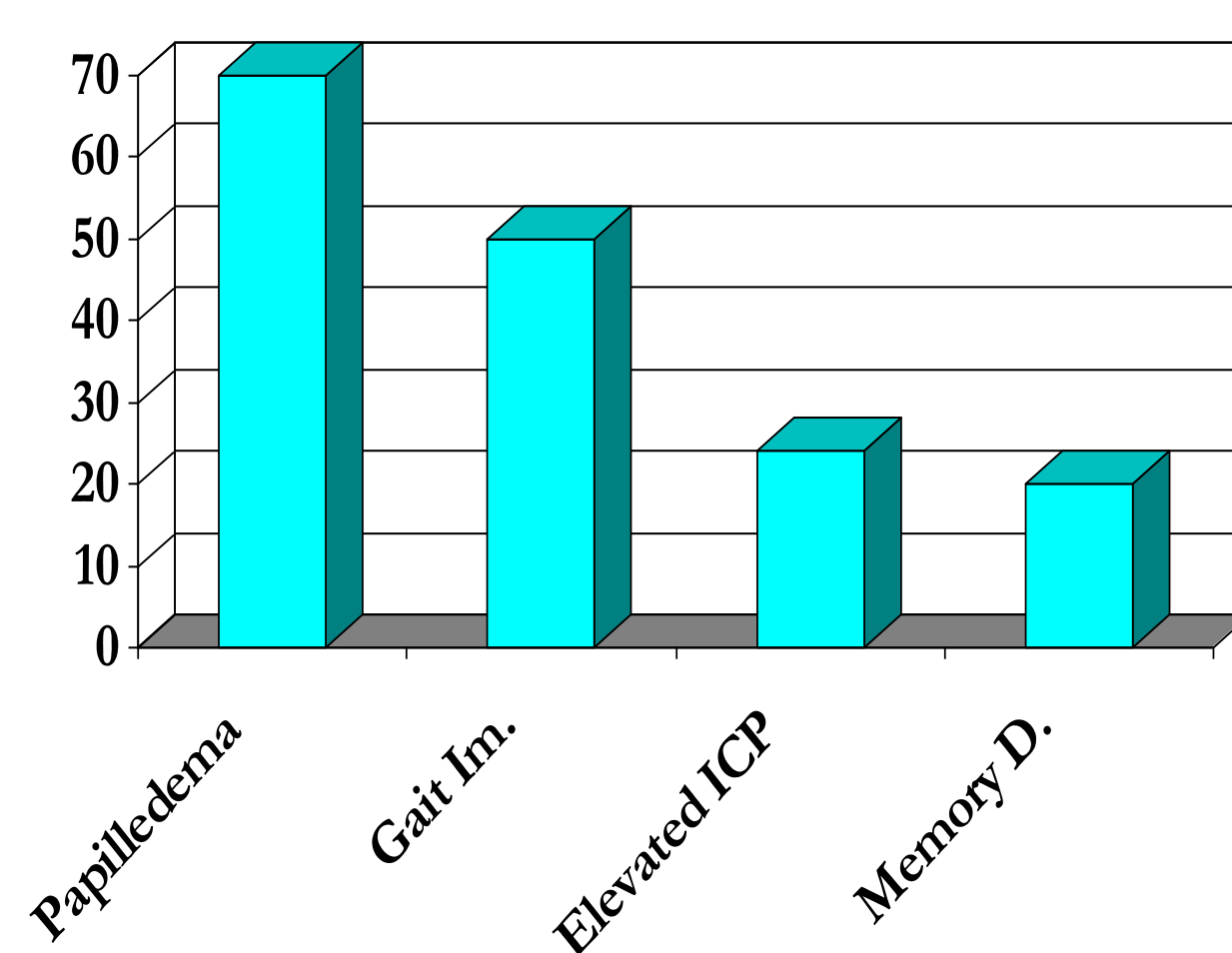
Conflict of Interest: The authors declare that they have no conflict of interest

Introduction: Neuroendoscopy is presently considered a scarcely invasive surgical approach to expanding lesions bulging into the ventricle, as a relevant tool to perform bioptic procedures, discontinuation of cystic walls or tumour removal in selected cases. Furthermore, the diffusion of neuro-imaging and the accurate follow-up of brain tumour patients have more frequently allowed documenting tumoural and pseudo-tumoural cystic areas causing the obstruction of cerebrospinal fluid (CSF) pathways. The following neurological deterioration usually represent a limit for further treatments, as chemotherapy and radiotherapy. Neuroendoscopic procedures enable fenestration of cystic lesions, in addition with third ventriculostomy (ETV) or septostomy to restore CSF pathways. In selected case total or partial removal is possible. The immediate relief of intracranial hypertension and the availability of specimens for a pathological diagnosis yield the indication to more effective therapeutic strategy based on tissue analysis and CSF tumour markers. By improving the neurological status, the subsequent treatments are possible.

POPULATION

80 pts. (44 M , 36 F)
Age from 8 to 79 yrs. (median 55)
KPS > 55 (30 – 70)
• 28 Lateral ventricle
• 32 Third ventricle
• 2 Fourth ventricle
8 Brain stem tumors
5 Sylvian Aqueduct
5 Leptomeningeal dissemination

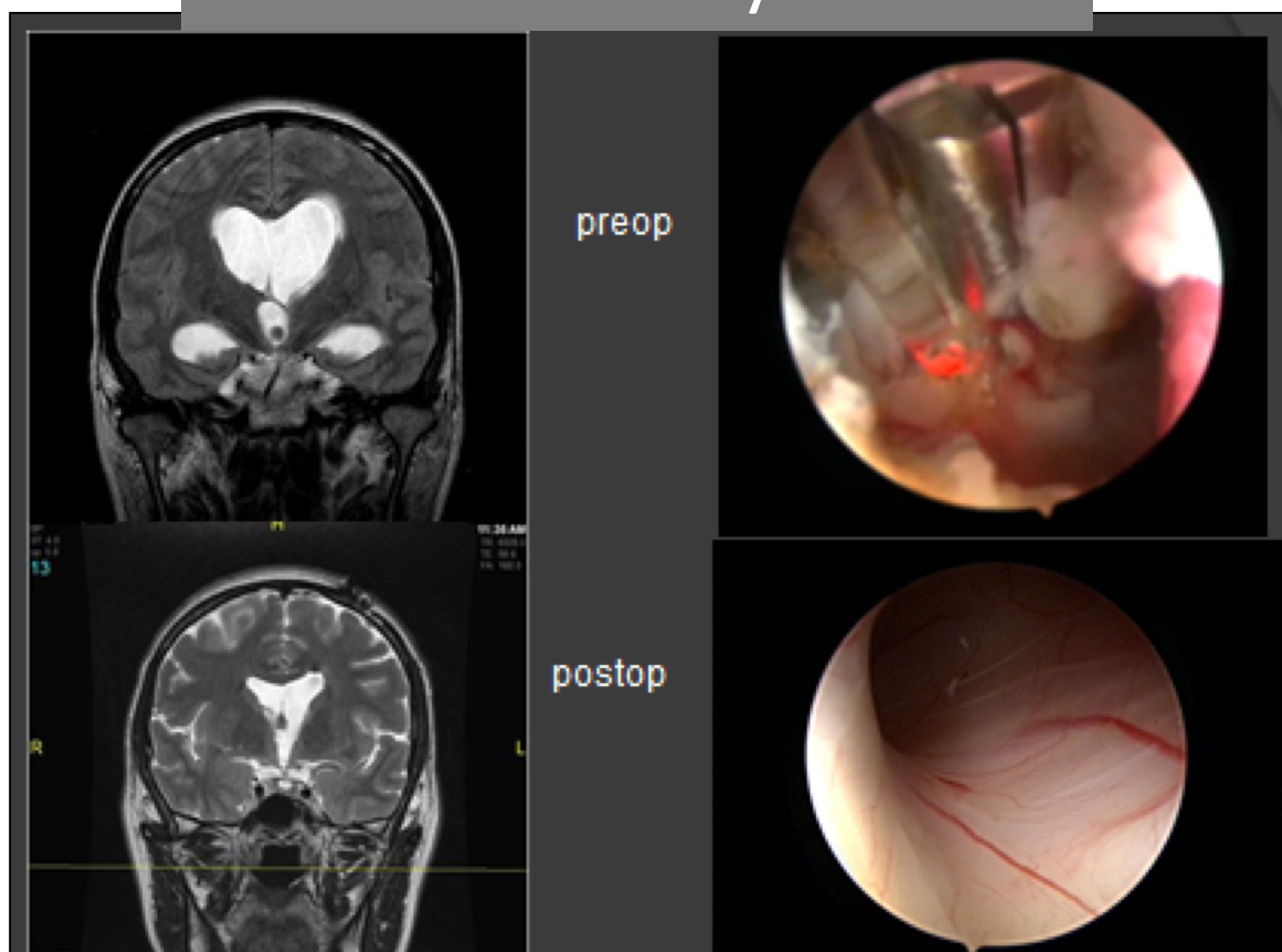
Clinical Presentation



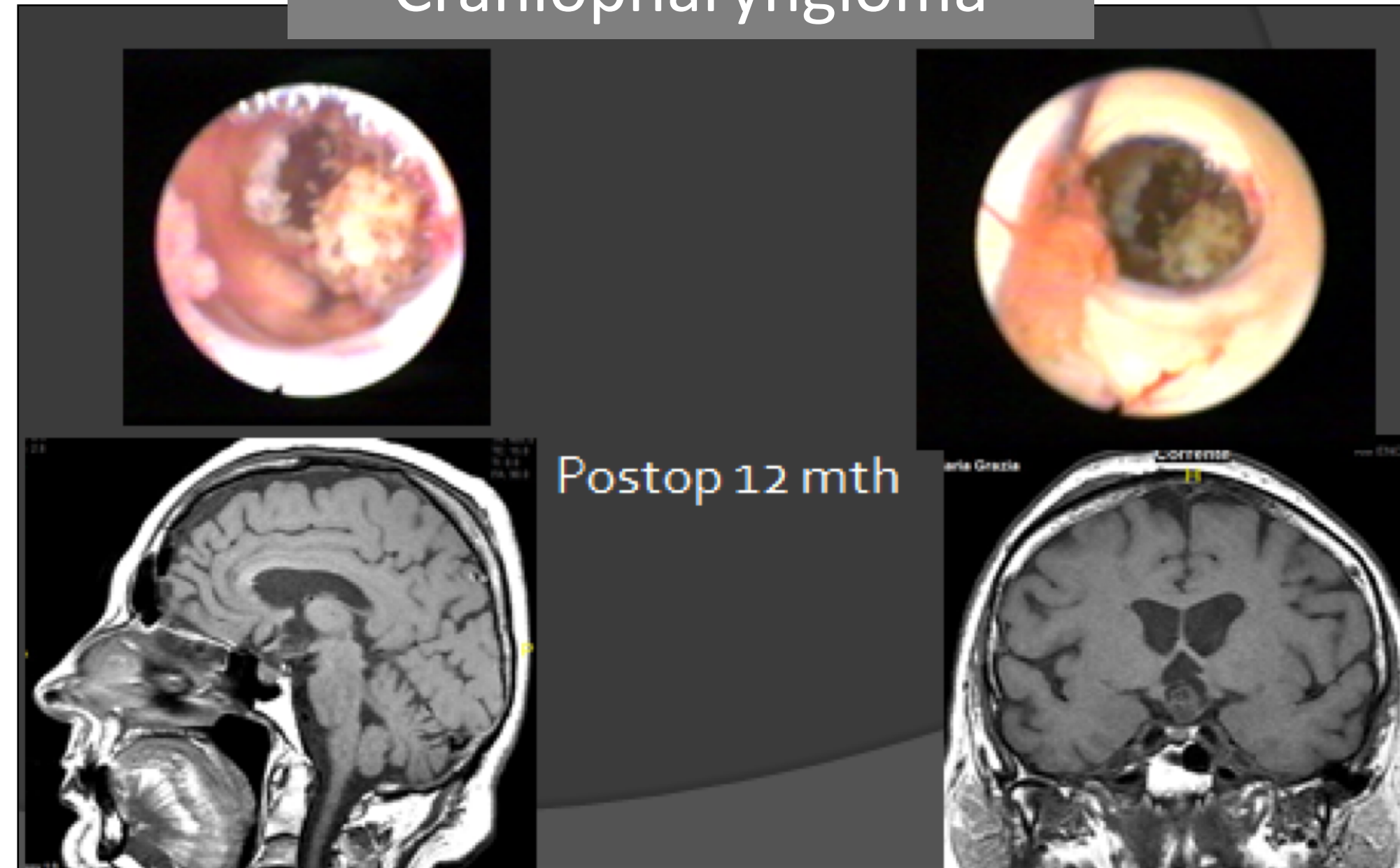
HISTOLOGY

Glioma low grade	9
Glioma high grade	23
Tectal Glioma	4
Malignant teratoma	2
Colloid Cyst	5
Radionecrosis	7
Craniopharyngioma	7
PNET	5
Lymphoma	4
Metastases	8
Leptomeningeal Metastases	6

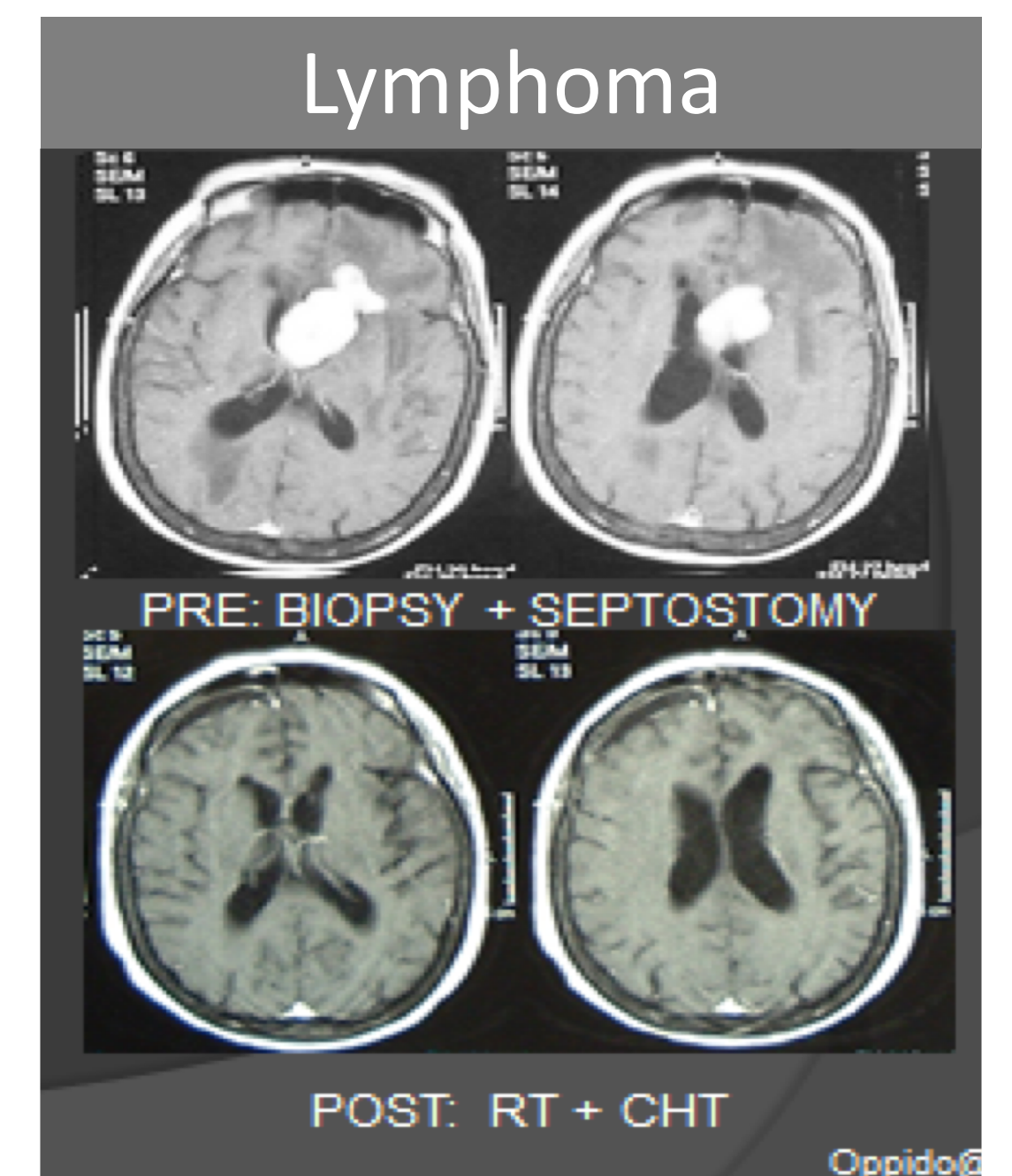
Colloid Cyst



Craniopharyngioma



Lymphoma



NEUROENDOSCOPIC PROCEDURES

Biopsy 23/24 (1 abandoned)
ETV 58
Septostomy 10
Cistostomy 14
Tm laser ablation 12

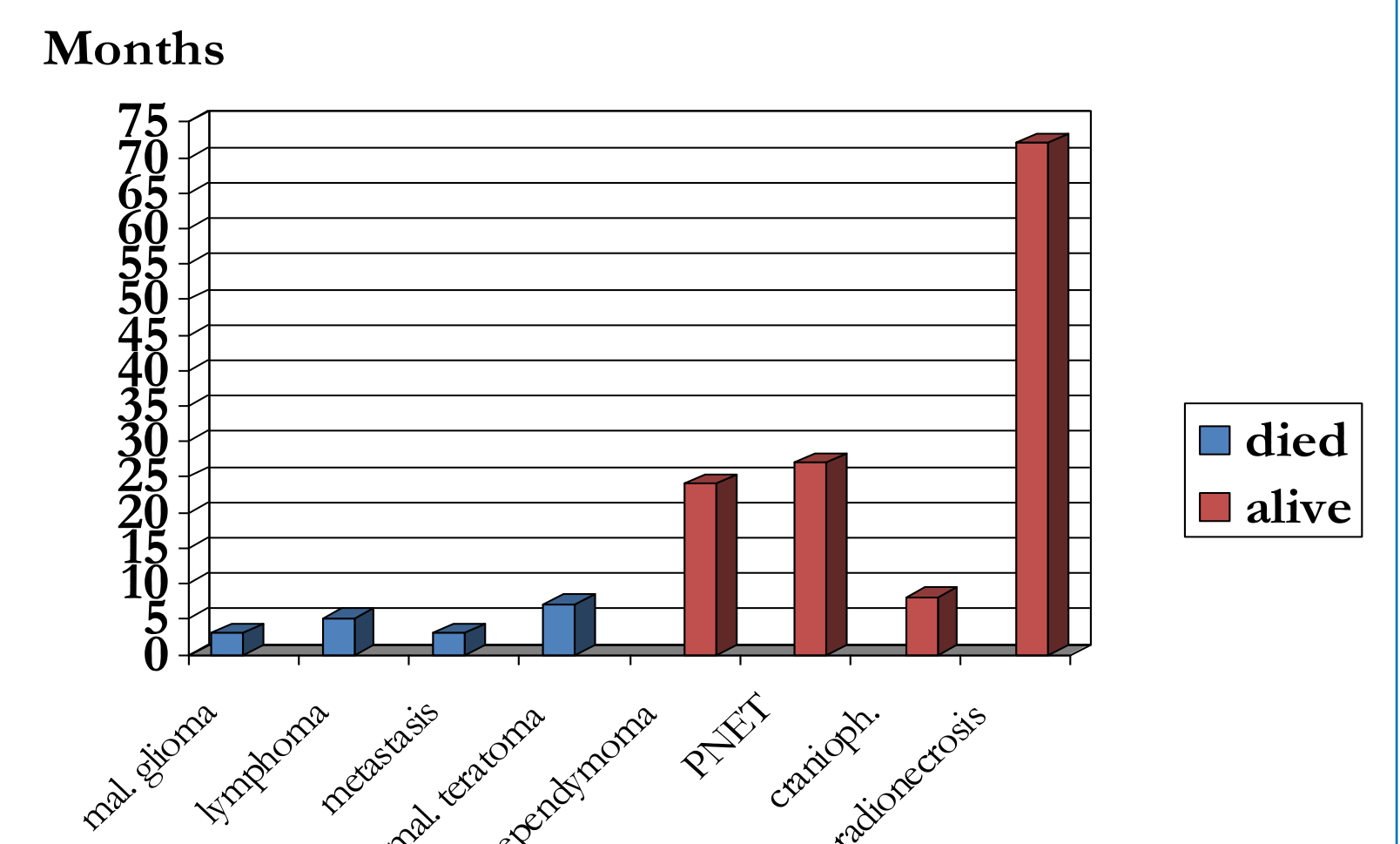
RESULTS

95% Clinical Outcome improved KPS >70
5 only ETV in Low grade glioma
5 total removal

SUBSEQUENT TREATMENT

16 Microsurgical removal
23 Chemotherapy
25 Radiotherapy
6 no Treatment

OVERALL SURVIVAL



Conclusion: In this series the endoscopy was found to be safe and effective, avoiding major surgical approaches and without any relevant post-operative morbidity. Based on these results and on the increasing series described in the literature, the endoscopic techniques should be considered a selected approach to treat CSF obstructions by para-intraventricular tumours. This surgical procedure is not limited to relief of non-communicating hydrocephalus, but also it is useful for tumour removal or biopsies and evacuation of cystic lesions. In patients affected by malignant tumours, neuroendoscopy can be performed to control intracranial hypertension before starting adjuvant chemotherapy or radiotherapy. In selected cases with benign histology can be the only surgical procedure without any other therapy