Supracereballar infratentorial approach and its complications

Martin Smrcka MD, PhD; Vilem Juran; Tomas Svoboda

Neurosurgical department, University Hospital Brno, Masaryk University Medical School, Brno, Czech Republic

Introduction

Supracereballar infratentorial approach (SCITA) is an effective extracerebellar approach to pathologies of upper part of cerebellum, pineal region, mesencephallon, pulvinar thalami or even mediobasal parts of temporal lobes. Venous complications belong to the most important ones.

Methods

We studied retrospectively a series of 13 patients where this approach was used in the last 4 years. There were two glioblastomas, two atypical meningeomas G II, two arachnoid cysts and by one pilocytic astrocytoma, hemangioblastoma, pinealoblastoma, seminoma, ependymoma G II, metastasis and caveroma. The operations were performed in the sitting position. No air embolisation occured. The deep venous system stayed intact in all patients. In all operations, however, one or two bridging veins from cerebellum to tentorium were cut. No retraction on the cerebellum was used.

Results

Total/subtotal resection was achieved in 8/5 patients respectively. All surgical results were good except for one mild hemiparesis (meningeoma) and one death (thalamic cavernoma) due to venous infarction and malignant edema of cerebellum.

Learning Objectives

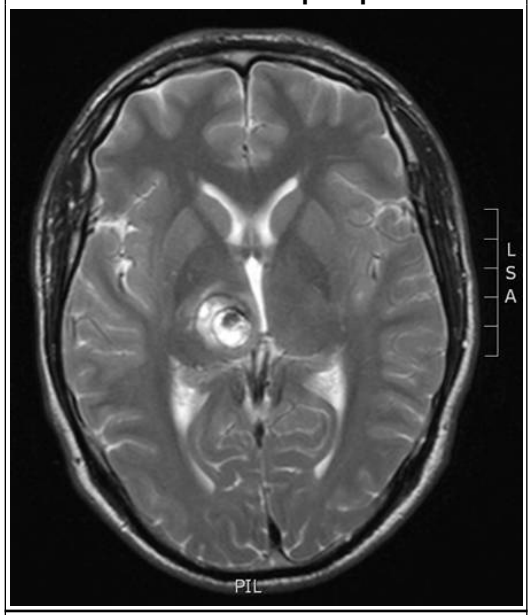
By the conclusion of this session participants should be able to: 1)Understand the benefit of SCITA, 2) Understand the main steps of SCITA, 3) Understand the possible complications of SCITA

References

Conclusions

Supracerebellar infratentorial approach is a very efficient approach for many pathological processes and in majority of cases lead to very good results. The most severe complications occur as a result to the damage of the deep venous system. Even cutting of the bridging veins might cause a disastrous damage to the cerebellum in approximately 1% of the patients. The patients should be informed about this risk before the operation.

Thalamic cavernoma - preoperative MRI



Venous infarsation after decompressive craniectomy

Thalamic cavernoma - postoperative MRI