

Introduction

Recent research has pointed out the influence on operating time on postoperative morbidity especially in benign tumors of the skullbase. Time-consuming complex, combined skull base approaches are major contributors to surgical morbidity. Using safe, standardized and frequently used approaches followed by endoscopic assisted skull base surgery, leads to a new philosophy in applying approaches to the individual case.

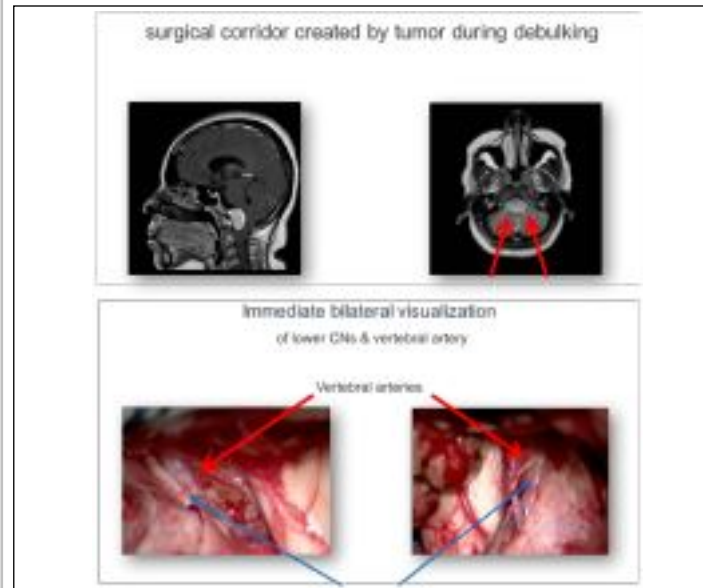
Methods

We present our experience in the midline suboccipital approach to large anterior foramen magnum meningioma. As the tumor itself gives access to the anterior space, the remaining hidden tumor parts can be inspected and removed with endoscopic assistance from both sides. Prerequisite is sharp arachnoid mobilization and alternating elevation of cerebellar tonsils, followed by partial resection of bulging lateral tumor tissue on both sides. Last step is visualization and resection of true anterior tumor parts

Now with 30/45 degree endoscopes resection through the wide lateral space at the brainstem can be safely performed.



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Results

All surgeries performed in this manner achieved excellent outcome with no permanent neurological deficit and complete removal of the meningioma (Simpson II). No approach related morbidity was observed, mean time for the approach was 35 min.

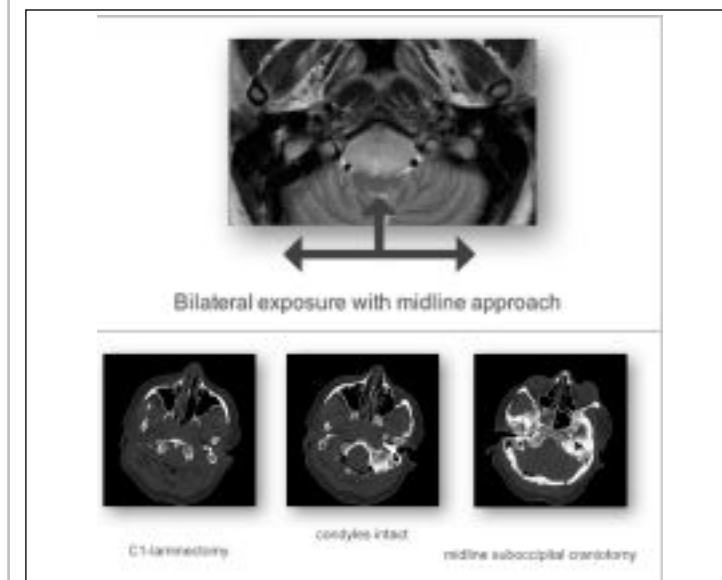


Learning Objectives

Identify new approaches for skull base surgery

Identify good patient candidates to apply new approaches

Learn combination of new techniques tools to apply new approaches



Conclusions

With implementation of new techniques, skull base approaches are shifting towards simple and low-morbidity approaches, sparing time and resources, while at the same time safe and complete resection of the foramen magnum meningioma is achievable.

References

The midline suboccipital subtonsillar approach to the cerebellomedullary cistern: how I do it. Herlan S, Roser F, Ebner FH, Tatagiba M. Acta Neurochir (Wien). 2017 Sep;159(9):1613-1617.

The midline suboccipital subtonsillar approach to the cerebellomedullary cistern and its structures: anatomical considerations, surgical technique and clinical application. Herlan S, Ebner FH, Nitz A, Hirt B, Tatagiba M, Roser F. Clin Neurol Neurosurg. 2014 Oct;125:98-105.