

Introduction

Resection of tumours in the posterior fossa poses a number of challenges. The patients often have significant comorbidity such as metastatic cancer, and can often present emergently with either local pressure symptoms or hydrocephalus. We aimed to determine the mortality associated with surgery, as well as the frequency and manner of associated interventions such as ventricular drainage or haematoma/abscess evacuation that may be required in this population.

Methods

Retrospective chart review of all patients undergoing resection of a tumour from the posterior fossa at our institution between 2006 and 2015, reviewing all cause mortality at 30 days and any and all further operative interventions

Results

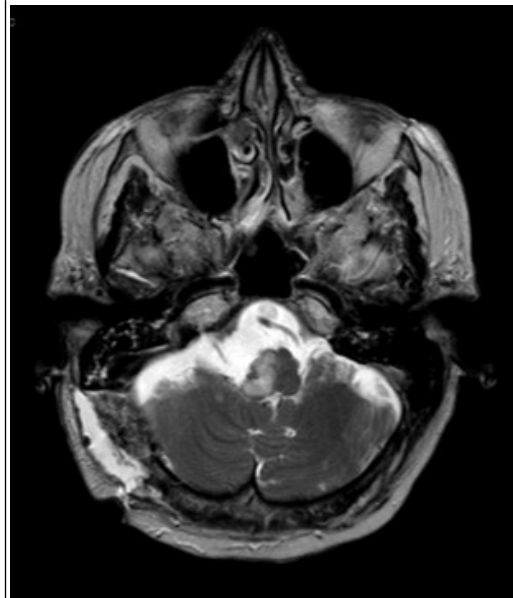
443 patients underwent posterior fossa tumour resection. 126 patients required a total of 251 further operative interventions during the period reviewed, most commonly for diversion of CSF (183 CSF access/diversion procedure). Five post operative haematomas were evacuated and two abscesses. 19 patients died within 30 days of their operation, giving an overall mortality of 4.3%. 119 patients required CSF diversion during their treatment (27%), 101 of whom required permanent shunting.

Causes of death were post op haematoma (6), pneumonia (6),

Breakdown of diagnoses

Tumour	Number
Metastases	95
Meningiomas	77
Haemangioblastomas	54
Pilocytic Astrocytomas	45
Medulloblastomas	33
Epidermoid cysts	21
Ependymomas	18
Glioblastomas	14
Astrocytomas	9
Gangliogliomas	8
Lymphoma	8
Misc	61

Brain stem stroke causing Ondine's curse



Mortality for metastatic tumours was 10.5%, and 6.5% for meningiomas vs 1.5% for all other diagnoses.

The risk of mortality for patients over the age of 65 was 14%, vs 2% for those under 65 (P 0.000001).

126 patients (28%) required a total of 251 further operative interventions during the period reviewed, for a total of 694 theatre events.

This included 26 redo procedures, primary amongst the paediatric population, and 183 procedures related to CSF access (Ommaya/shunt/EVD/Lumbar port).

119 patients required CSF diversion, with 101 requiring a permanent shunt. Shunt timing was extremely variable with relation to the primary procedure.

29 patients returned to theatre within seven days, most commonly for insertion of an EVD (14) and this was associated with a mortality risk of 17% at 30 days, significantly higher than those who didn't return to theatre urgently.

Conclusions

Posterior fossa tumour surgery carries a significant risk of mortality, which all patients should be routinely counselled about. The most common associated condition is hydrocephalus, with a quarter of patients requiring CSF diversion along with their tumour resection. The 30 day mortality risks are higher for patients with metastatic carcinoma (10.5% of patients died) and posterior fossa meningiomas (6.5% mortality), than for the remainder of diagnoses, and this is particularly marked in those patients over the age of 65, who have a far higher risk of mortality following operative intervention than younger patients.

Learning Objectives

Participants will be able to better discuss the risks and potential complications of posterior fossa tumour surgery.