

Introduction

Surgery for intra-axial brain stem lesions belong to the most difficult neurosurgical challenges especially when performed with the limited resources of a developing country.

Methods

We reviewed the outcome of 72 cases surgically treated for intrinsic brain stem lesions between 2008 and 2016. This cohort could be classified into 2 groups; 48 cases of brain stem glioma (BSG) and 24 cases of brain stem cavernoma (BSC). The mean follow up period was 31 months. Intra-operative image guidance was lacking in all our cases and electrophysiological monitoring was available in 47 cases

Results

The 1st group included 29 children & 19 adults harboring BSG with a mean age of 21 years. They underwent 63 surgical procedures at our institute: 57 procedures were for tumor resection, 5 were for CSF diversion and the one for the evacuation of a subdural hygroma. Total resection was achieved in 17 out of 57 procedures for tumor resection (29.8%). The most common pathology was pilocytic astrocytoma (49%). There were 2 post operative mortalities in this group and 4 cases had permanent post-operative worsening of their neurological status.

The 2nd group included 23 adults and one child with a mean age of 34 years. All patients in this group suffered from at least 2 significant hemorrhagic episodes prior to surgery. There was a single post operative mortality in this group. At one year follow up, 9 cavernoma patients (37.5%) showed improvement compared to their preoperative neurological status, 10 patients (41.7%) had no change, and 4 patients (16.7%) were neurologically worse than their preoperative status

Conclusions

Despite its associated risks, surgery remains the primary therapeutic option for focal BSGs and symptomatic BSCs. Modern diagnostic and surgical tools are useful in reducing these risks; however proper patient selection and meticulous microsurgical techniques represent the basis for satisfactory results

Learning Objectives

By the conclusion of this session, participants should be able to:

1. define the indications of surgery for intrinsic brain stem lesions
2. to identify the possible surgical nuances and complications
3. to delineate factors affecting outcome after surgery

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