

Introduction

As overall survival, in patients affected by low grade gliomas, is inversely related to tumoral volume, we present our experience in second surgery of insular tumor recurrence (TR). No previous investigation has examined the possibility of a second surgery in this area. The authors analyzed the clinical, neuro-radiological, pathological and surgical data of second surgery patients ,highlighting factors that may be associated with TR.

Methods

We retrospectively reviewed 23 out of 52 patients with histological diagnosis of LGG, who underwent a second operation for tumor recurrence . All surgical procedures were conducted under cortico-subcortical mapping and neurophysiological monitoring. The extent of surgical resection (EOR) was established by a volumetric MRI analysis.

Results

At first operation, immediate post-operative neurological worsening was detected in 30.76% of cases, while permanent worsening was observed in 1.92% of cases. After the second surgical procedure, an immediate post-operative worsening resulted in 34.78% of cases, while, at 3 months; no deficit has been detected. The median time between the two operations was 77 months. At second surgery, almost half of the patients had experienced tumor progression (30.43% progressed in glioblastoma and 26.09% in anaplastic astrocitoma). The majority of patients (73.91% of cases) with tumor progression had an EOR, at first surgery, less than 90%.

Multivariate analysis showed that TR was influenced by histological subtype (p = 0.02) and EOR (p < 0.0001).

Conclusions

The EOR and the histological diagnosis of fibrillar astrocytoma at first surgery represent the major risk factors for TR. Second surgery, planned with functional data and supported by intra-operative neurophysiological monitoring and mapping is a safe and effective procedure for recurrent insular LGGs. The fact that more than 50% of cases progresses in high grade glioma, emphasises the question of terapeutical strategy after the first resection

Learning Objectives

By the conclusion of this session, participants should be able to:to have more information about a long follow up of insula loww grade gliomas,reconsider the resection of a low grade glioma recurrence ,have a better knoweledge of the technical surgical aspect of an insular glioma recurrence reducing some doubts about this kind of surgery.

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