

Awake Craniotomy And Brain Mapping In Glioma Surgery, WFNS Fellowship Experiences

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Purpose:

The goal of surgery in gliomas related to eloquent areas is to maximize the resection with function sparing. But frequently surgery for such lesions under general anesthesia results in poor extent of resection or permanent postoperative deficits, or both.

We review our experience in awake craniotomy and intraoperative brain mapping for resection of such tumours at XXXX during first author's WFNS fellowship and initial experience at XXXX.

Materials and Methods:

We performed a 2-years review of patients (n=60) with eloquent tumors who underwent awake craniotomy under local anesthesia and monitored conscious sedation at both centers. Pre-operative comprehensive neuropsychological and radiological evaluation was performed. Intraoperative direct cortical and subcortical stimulation and neurophysiological monitoring were carried out during surgical resection. Operative complications, neurological deficits, and extent of resection were evaluated.

Results:

There were 32 male and 28 female patients with a mean age of 42.8 years. There were no major anesthetic complications. 6 patients (10%) had intra-operative seizures. Postoperative neurological deficit was seen in 10 patients (16.7%) and this was permanent in only 4 patients (6.7%). gross total resection >98% was achieved in 46.7% of patients, 30% of patients had near total resection > 90% and 23.3% had subtotal resection <90% and > 50%.

Conclusion:

Awake craniotomy and brain mapping allows maximal resection of gliomas in close relationship to eloquent areas and can be carried out with good overall patient tolerance, and with a low risk of postoperative neurological deficits or surgical complications.