MOTOR STATUS IN PATIENTS UNDERGOING BRAIN TUMOR SURGERY: A SYSTEMATIC REVIEW

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INTRODUCTION

- The incidence of central nervous system cancer has increased in the past years\(^1\);
- Brain structures are often affected and bring a large spectrum of neurological deficits\(^2\);
- To maximize the chances of survival, most patients goes through surgical removal (SR), making possible the resolution of intracranial mass effect\(^3,4\).

**Objective**

The aim of this review is to describe motor status in brain tumor (BT) patients and identify possible predictors of outcome after surgery.

METHODS

Systematic review performed in MEDLINE, EMBASE and LILACS.
Date limit: March 16, 2019.

Inclusion Criteria:
✓ Original observational studies;
✓ In adults with BT;
✓ Having motor function status as outcome.

Exclusion Criteria:
× Not original studies;
× non-BT or mixed sample;
× age below 18 years old;
× recurrent BT; conflicting demographic data;
× None/unspecific description of motor deficits or function assessment.
RESULTS

Of 54 studies selected by abstract information, only 9 met the criteria and were included.
RESULTS

Demographics on available data:

Types of Brain Tumor

- High Grade Gliomas: 64%
- Low Grade Gliomas: 3%
- Gliomas (without specifications): 14%
- Meningiomas: 4%
- Metastasis: 11%
- Other Tumors: 4%

- 49% Left Hemisphere
- 50% Frontal Lobe
- Most studies focused in glioma patients.
- 53% Male
RESULTS

• Medical Research Council Muscle Scale was the mainly standardized instrument used.

• Upper extremity was more commonly evaluated.

Rehabilitation\textsuperscript{5-7}

- All patients underwent previous surgical removal;
- Patients were assessed with motor and functional scales at admission and discharge;
- Brain tumor patients present higher scores at discharge.

Surgical Removal Setting$^{8-13}$

- Upper Extremity was usually impaired.
- Mean follow-up time was 8.26 months.

Motor deficits were described in a varied way;

In rehabilitation studies data about the brain tumor (histopathology report, morphological characteristics, information about preoperative period) was rare.

A good description of brain tumor was available in surgical removal setting, although information about functionality was rare.
SUMMARY POINTS

➢ Most postoperative deficits tend to improve within the follow-up time.

➢ The majority of patients with brain tumor who presented functional impairment will improve in the postoperative period;

➢ Evaluation of predictors of outcome were hampered because of the heterogeneous and absent data collected from the articles included in this review.