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O-ONC-61 - An economic study: a cost-effectiveness analysis of intraoperative monitoring with pyramidal tract mapping in 80 gliomas resection surgery

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Resumen

Introduction: The use of intraoperative monitoring in neurosurgery has increased exponentially in the last years. Although, the cost benefit of its clinical utility remains to be proven and reported in literature.

Objectives: To evaluate the cost benefit of adding neuromonitoring to glioma resection surgery.

Material and methods: We retrospectively reviewed all the patients submitted to surgical glioma resection, located nearby eloquent motor regions or pathways conditioning mild clinical motor deficit, between 2012 and 2015. We further divided these patients in two groups: with (pWM) and without neuromonitoring (pWTM). We analyzed and compared the cost of each inpatient duration after surgical treatment, the total cost of neuromonitoring, and the motor clinical outcome immediately after surgery and at three months routine consult.

Results: We reviewed 80 patients submitted to glioma resection, 40 pWM (mean age 42 ± 18 years) and 40 pWTM (mean age 57 ± 19 years). The average cost after surgical treatment per day for inpatient was similar in both groups (485.50 vs 494.50 euros), although the stay of pWTM was three day greater in average. The mean total cost of neuromonitoring was 427 euros. In the pWM there was an improvement of their segmental motor deficit in 11% immediately after surgery (vs 13% of pWTM) and in 57% at 3 months (vs 27% in pWTM).

Conclusions: The cost of adding the neuromonitoring to the surgical treatment of gliomas was overwhelmed by the slightly benefit taken from the minor duration of stay in the hospital and by the improving clinical motor deficit in half of the patients.