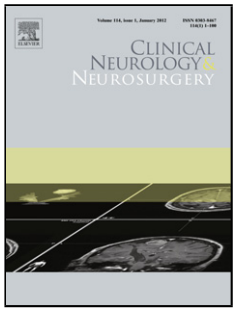

Title: Spontaneous speech in patients with gliomas in eloquent areas: Evaluation until 1 year after surgery

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TITLE PAGE

Title of the paper: Spontaneous speech in patients with gliomas in eloquent areas: evaluation until 1 year after surgery.

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HIGHLIGHTS

- Glioma patients have impaired spontaneous speech with naming and fluency deficits.
- Spontaneous speech analysis is sensitive to detect long-term language decline.
- Most spontaneous speech variables did not correlate with standard language tests.
- Spontaneous speech has added value to standard tests for diagnosis of deficits.

ABSTRACT

Objective: Glioma patients often complain about problems in daily conversation with a negative impact on quality of life. Disorders in standardized language tests (e.g. naming and fluency), are frequently observed. Most studies claim recovery of language functions within 3 months. However, long-term effects of surgery on spontaneous speech remain unknown.

Patients and Methods: Eighteen glioma patients were compared to healthy controls in spontaneous speech variables: Type Token Ratio (TTR), Mean Length of Utterance words (MLUw), Incomplete Sentences, Self-corrections and Repetitions. Boston Naming Test (BNT) and Category Fluency (CF) were also assessed. We compared: pre- and 3 months postoperatively (T1-T2), 3 months and 1 year postoperatively (T2-T3), pre- and 1 year postoperatively (T1-T3). Correlations were computed between deviating variables and BNT/CF, tumor localization, and tumor grade.

Results: Patients had deficits in Incomplete sentences (T1, T2, T3), TTR (T2,T3), MLUw (T3) and Self-corrections (T2). Between T1-T2 no decline was present. Between T2-T3 and T1-T3, there was a decrease of MLUw, Self-corrections and Repetitions and an increase of