

Autonomic Function In Insular Glioma -An Exploratory Study

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Purpose

Autonomic nervous system (ANS) dysfunction is a known entity in strokes involving insula. It causes significant morbidity and mortality. There is no study till date demonstrating ANS dysfunction in patients with insular glioma. This is an exploratory study to identify the subclinical autonomic dysfunctions in insular glioma.

Materials and Methods

A total 50 patients with newly diagnosed insular glioma in the age group of 18-60 years, were evaluated with heart rate variability (HRV). All the HRV parameters in patients with insular glioma were compared with normal healthy age and gender matched controls.

Results

There was a significant difference (p value < 0.05) in most of the HRV parameters between patients and controls. Patients with left insular glioma showed significantly increased heart rate ($p = 0.027$), LF nu ($p = 0.048$), and also increased LF/HF ($p = 0.015$), which indicates sympathetic dominance. Patients with seizures had significantly lower values of total power ($p = 0.042$). No significant difference was found in terms of extent and size of the tumor or histopathological grades of gliomas.

Conclusion

Patients with insular gliomas have significant impairment of autonomic functions with left insular glioma showing sympathetic dominance. Suppression of autonomic function is more in those presenting with seizures.