

SUBSTANTIA NIGRA HYPERECHOGENICITY AND MOTOR SEVERITY IN PARKINSON'S DISEASE: IS THERE AN ASSOCIATION?

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Introduction: The evaluation of hyperechogenicity of the substantia nigra (SN) by transcranial sonography (TCS) is validated for the diagnosis of Parkinson's disease (PD). However, its correlation with the severity of motor involvement is still uncertain.

Methods: We included patients with clinical diagnosis of idiopathic PD in a cross-sectional study. All patients were evaluated with Unified Parkinson's Disease Rating Scale-motor score (UPDRS-III) and TCS at the same day with measurement of the area of SN hyperechogenicity for each side. We analysed the association between the area of SN hyperechogenicity and the contralateral motor scores of UPDRS-III, adjusting for age and dominance of the patient (statistical significance set to $p < 0.05$).

Results: 35 patients were analysed, 3 (8.6%) were excluded due to poor temporal acoustic bone window. From a total of 32 patients, the mean age was 58.4 (± 11.2) years. The mean area of hyperechogenicity was 0.31cm^2 (± 0.1) and the mean score of UPDRS-III was 18.9 (± 6.1). There were no statistically significant correlation between the scores of the UPDRS-III (rigidity, tremor and bradykinesia) and the area of SN hyperechogenicity contralateral.

Conclusion: The area of SN hyperechogenicity did not correlate with motor deterioration in Parkinson's disease.