Serum Uric Acid Level and its Relationship to Non-Motor Symptomatology in Parkinson’s Disease (P1.048)

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Objective: To determine the relationship between serum uric acid level and non-motor symptoms using the PD specific non-motor symptoms in Nigerian patients with Parkinson’s disease.

Background: Uric acid in low levels have been associated with rapid progression of motor symptoms of Parkinson disease, increased disease severity and increased frequency of non-motor symptoms. There is a paucity of studies on serum uric acid and non-motor symptoms in Parkinson’s disease. This study was conceptualized to determine the relationship between serum uric acid levels and the frequency of non-motor symptoms especially in Parkinson’s disease patient of African descent.

Design/Methods: This was a 6-month analytical cross-sectional study recruiting 70 patients with Parkinson’s disease and 140 age and gender matched controls. Parkinson’s disease patients who met the inclusion criteria for the study were recruited consecutively from the Movement Disorders Clinic of the Lagos University Teaching Hospital. Healthy controls who met the inclusion criteria for controls were also recruited from volunteers. The non-motor symptoms were assessed with the Non-Motor Questionnaire. Serum uric acid measurement was determined on 5 mls of non-fasting venous blood drawn from each participant from a peripheral vein.

Results: Mean serum uric acid in PD (2.43 ± 0.75 mg/dl) was significantly lower than in controls (3.73 ± 1.09 mg/dl) (p <0.001). The non-motor symptoms that showed an independent correlation with serum uric acid using multivariate logistic regression analysis were loss of taste/smell with odds ratio of 0.411 (95% confidence interval (CI) of 0.196 – 0.863) and memory impairment with odd ratio of 0.466 (95% confidence interval of 0.229 – 0.948).

Conclusions: Low serum uric acid showed that serum uric acid is low in patients with Parkinson’s disease and associated with increased frequency of non-motor symptoms. It could predict the occurrence of memory impairment and loss of taste/smell.