## Changes in the cognitive function of patients with early onset Parkinson´s disease

**José Benjamín Herrera Aranda, Hermelinda Salgado Ceballos** and **Ana Natalia Seubert Ravelo**
Universidad Nacional, México

**Statement of the Problem:** Parkinson´s Disease (PD) is a movement disorder also characterized by non-motor symptoms, that including cognitive impairment. In the Early Onset Parkinson´s Disease (EOPD) motor symptoms begins between the 21 and 50 years old. Deep Brain Stimulation (DBS) has been used as a treatment of motor symptoms in PD, but there is still controversy about its effects on the non-motor symptoms. Few studies have described Mild Cognitive Impairment (MCI) and dementia in EOPD, and only other few have described effects of DBS on the cognition in these patients.

**Methodology:** The present study describes the progression of MCI and dementia in 16 patients with EOPD (8 patients with DBS and 8 with only pharmacological treatment) that were assessing between 1-7 years after initial evaluation for inclusion in the present protocol. All patients were evaluated neuropsychologically in the follow cognitive domains attention and working memory, memory, language executive functions, and visuoespatial abilities. The MCI and dementia were determined according to the Movement disorder Society criteria. Descriptive statics and Fisher´s exact test was used for the statistical analysis.

**Findings:** About 25% of patients changed their status from normal cognition to MCI, of which 75% was in treatment with DBS. About 75% of these cases changed their cognitive status in the first 3 months. However, not statistically significant differences (p=.562) were found between patients with and without DBS by using Fisher´s exact test and no one changed their cognitive status to dementia during follow.

**Conclusion & Significance:** Apparently, progression to MCI is infrequent in EOPD, and dementia was not found, even in patients with more than ten years after starting the first motor symptoms. According to these results, DBS could not be a risk factor for change cognitive status from normal cognition to MCI or dementia in patients with EOPD.