P103

An analysis of gender differences in the clinical profile of Parkinson's disease patients

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Introduction: Parkinson Disease (PD) is the second most common neurodegenerative disease. Over the years several studies have reported gender differences in the clinical profile at onset, rate of progression of cognitive impairments, presence of specific motor symptoms, rate of quality of life, and treatment [1]. However, the mechanisms behind these differences, as well as their evolution over time are not entirely clear [1]. The importance of understanding and investigating these differences in depth is paramount to provide better care, to understand in depth how PD develops, and to provide a more personalised and effective care to all patients.

Objective: The present study aimed at characterising in depth the overall clinical profile of male and females PD patients.

Methods: Data from 731 PD patients was used in the current study. Clinical data from these patients was collected during routine clinical examinations carried out to assess the presence and progression of PD symptoms (both motor and non-motor).
A series of non-parametric Mann-Whitney test were conducted to assess the presence of gender differences in any of the global cognitive tests and assessment scales.

Results: Preliminary results showed statistically significant differences between males and females patients for scores in the ADL scale ($z(730)=-2.02$, $p<0.05$), in which males appeared to have higher scores than females, and in the PDQ8 scores ($z(730)=-3.49$, $p<0.001$), in which females appeared to have higher scores than males. A significant difference was also found for the type of treatment, the results showed that females were found to use apomorphine more often than males ($z(730)=-1.97$, $p<0.05$).

Conclusions: From these results it appears that females have a much more complex clinical presentation of the disease with worse baseline autonomy, worse overall quality of life, and need to utilise apomorphine pumps more often than males. Moreover, differences found in the scores of the ADL scale, without the presence of a significant difference in global cognitive scores or in rate of dementia between the two groups, might reflect a motor bias influencing the scoring of this scale.

References:
[1] Russillo et al., 2022. Brain Sci., 12, 917.