

A qualitative assessment of dynamic balance reactions in patients with Parkinson's disease

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Background: To evaluate balance disorders in Parkinson's Disease (PD) many tools can be used, however the majority of them does not take into account the dynamic balance reactions (DBR). The aim of this study was a qualitative assessment of DBR in patients with PD, thus authors proposed two functional tests. Materials and methods: A study group consisted of 19 PD patients was compared to a control group – 19 healthy subjects. In this study new methods – a trial on a balance platform (rocker board) and a reach-to-side test (RST) – were proposed and compared to the Activities-Specific Balance Confidence (ABC) Scale. Study on the balance platform assessed postural control mechanisms in a standing position; RST completed this evaluation in sitting. Results: In the test on the balance platform the average results achieved by the study group (55%) was statistically significantly different ($p < 0.05$) than in the control group (91.25%). In RST the average result in the study group was 62.5%, whereas in the control group was 87.5%. In both functional tests the correct order of DBR in PD patients was significantly less frequent ($p < 0.05$). Comparing the average results of functional tests with ABC scale there is no statistically significant correlation. Conclusions: The ABC scale provides information about the patient's subjective assessment, which is not always confirmed during motor tasks. It can be concluded that this scale is only good complement for motor tests. Both proposed methods are based on simple instruments and could be used in every consulting room.