DOPAMINERGIC CHALLENGE-TESTS IN PARKINSONIAN SYNDROMES

S. Seiler, K. Wenzel, P. Schwingenschuh, C.N. Homann, E. Ott

Department of Neurology, Medical University of Graz, Graz, Austria

Introduction/aims: Dopaminergic challenge tests with levodopa or apomorphine have been used for many years to either predict dopaminergic responsiveness, or as an effective tool for the diagnosis of Idiopathic Parkinson's disease. The aim of our study was to evaluate the predictive value of these challenge tests and their subtests regarding long-term levodopa-response and diagnostic accuracy.

Methods: In a retrospective study, 87 patients with a parkinsonian syndrome who had received either an apomorphine (n=49) or a levodopa (n=38) challenge test as part of their diagnostic work-up were included in the study. All of them where followed to evaluate long-term levodopa responsiveness and confirmation of their diagnosis. All challenge tests were performed in a standardized manner according to the local protocol including timed walking, finger tapping, foot tapping as well as the motor part of the Unified Parkinson's Disease Rating Scale.

Results: After a mean follow up time of 5,6 years, 55 patients had a clinical diagnosis of Idiopathic Parkinson's disease and 32 patients that of atypical or secondary Parkinsonism.

The apomorphine test compared to the levodopa test showed to have higher sensitivity (91,2% vs. 69,2%) and lower specificity (53,3% vs. 71,4%) values for the diagnosis and likewise higher sensitivity (84,6% vs. 81%) but lower specificity (55,6% vs. 70,6%) values concerning the long time response.

Conclusions: Our study suggests that both challenge tests are a helpful tool providing good diagnostic and predictive values, which however must be critically interpreted, and cannot replace a thorough clinical investigation and patient-orientated follow-ups.