Book of Abstracts

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Some aspects of prediction dementia in patients with Parkinson's disease

G. Rakhimbaeva[1], D. Okhunova[1]
[1]Tashkent Medical Academy, Neurology, Tashkent, Uzbekistan

Background: Predisposition to the development of Parkinson's disease dementia (PDD) is determined in the presence of early signs of cognitive deficit. Objectivization of methods for assessing cognitive deficits in patients with PD, in our opinion, will allow us to develop methods for predicting the development of dementia in patients with PD. The purpose of the study was to conduct a comparative assessment of the sensitivity and specificity of various known methods for screening and assessing possible dementia in patients with cognitive impairment associated with PD.
Methods: 48 patients with PD underwent neuropsychological screening to assess their cognitive state. The screening methods PD-CRS (Parkinson's disease cognitive rating scale), MMSE (mini-mental state examination), and PANDA (Parkinson neuropsychometric dementia assessment) were used. The degree of deviation from the norm, when assessing cognitive impairment, was determined on the basis of the gradation distribution of the results obtained, according to standard scales.
Results: The diagnostic sensitivity of the scales for predicting dementia in patients with PD was differentiated. Thus, the sensitivity of PANDA in assessing cognitive impairment was 42.9%. The PD-CRS (24.1%) and MMSE (2.5%) methods were less sensitive. The correlation between assessment methods, age and disease duration was only R=0.389±0.029 ($p<0.05$). Meanwhile, the specificity of tests in assessing cognitive impairment was significantly higher (64.9%, 51.7% and 23.9%, respectively; $p<0.05$). When diagnosing dementia in patients with PD, PANDA revealed dementia in 32.5%, PD-CRS in 8.4% and MMSE in 1% of patients. The correlation between PANDA and PD-CRS was R=0.425±0.025, PANDA and MMSE – R=0.118±0.012 and PD-CRS and MMSE – R=0.312±0.017
Conclusions: In the diagnosis of cognitive impairment in Parkinson's disease, PANDA and PD-CRS are more sensitive than MMSE. At the same time, the PANDA method is the most reliable for diagnosing and predicting the development of dementia in patients with PD.

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Evaluation of voice intensity and speech loudness perception in Parkinson's disease

N. Janssen[1,2], F.P. Cárdenas[3], C. Calvache[4], Ó. Bernal-Pacheco[5,6,7], C. Cárdenas-Palacio[8]
[1]University of La Laguna, Institute for Biomedical Technologies and Institute for Neurosciences, Santa Cruz de Tenerife, Spain, [2]University of California, Irvine, Department of Neurobiology and Behavior, Irvine, United States, [3]Universidad de los Andes, Psicología, Bogotá, Colombia, [4]Vocology Center, Bogotá, Colombia, [5]Fundación Santa Fe de Bogotá, Movement Disorders, Bogotá, Colombia, [6]Instituto Ortopédico Roosevelt, Bogotá, Colombia, [7]Universidad Militar, Bogotá, Colombia, [8]Universidad de La Sabana, Facultad de Psicología y Ciencias del Comportamiento, Chía, Colombia

Background: Voice in patients with Parkinson's Disease (PD) is characterized by a quiet speech (hypophonia). Nevertheless, the underlying mechanisms are not well understood. To identify potential perceptual deficits in hypophonia, this study analyzed voice intensity and speech loudness perception in PD.
Methods: Fifteen PD patients and fifteen age and sex-matched healthy controls participated in this study. Voice intensity was evaluated using the *Consensus Auditory-Perceptual Evaluation of Voice* (CAPE-V). Three speech loudness perception tasks included a magnitude estimation, an imitation task and a magnitude production procedure. The magnitude estimation and the imitation task were performed using an external voice at 60, 65, 70, 75 and 80 dB. For magnitude production procedure the participants were asked to repeat a sentence both quieter and louder than their own voice at an habitual volume.
Results: The participants with PD produced an impression of lesser voice intensity attribute of CAPE-V (p = 0.035). Loudness in magnitude production task of PD patients was statistically significant lower than did the controls subjects when they asked to repeat a sentence two (p = 0.003) and four times (p = 0.000) louder than a previous one spoken by themselves.