

Cerebrovascular disease associated with Parkinson's disease in Moldovan cohort study: preliminary results

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Abstract

Background: Parkinson's disease (PD) is frequently associated with brain vascular lesions (BVLs). Studies suggest that the latter may influence the severity of the disease.

Material and methods: BVLs on MRI were determined in 78.4% of 111 consecutive PD patients (mean age 64.87 ± 7.69 y.o.; disease duration 50.21 ± 38.61 mo.; 48 women (43.2%), 63 men (56.8%)).

Results: White matter lesions were present in 73 patients (pts.) (65.77%): 61 pts. (54.95%) – deep white matter, 46 pts. (41.44%) – periventricular white matter, and 41 pts. (36.94%) – both locations. Lacunes were determined in 19 pts. (17.12%), cerebral fissures deepening – 52 pts. (46.85) %, perivascular spaces dilation – 34 pts. (30.63%), ventricular system dilation – 29 pts. (26.13%). Patients with and without BVLs had similar ages (65.43 ± 7.64 vs 61.01 ± 7.64), ages at PD onset (60.95 ± 8.09 vs 56.01 ± 8.59) and disease duration (49.98 ± 36.76 vs 60.01 ± 52.31). They had insignificantly higher Beck (7.26 ± 5.62 vs 6.86 ± 4.34), PDQ3_(Parkinson's Disease Questionnaire) (59.71 ± 20.38 vs 51.94 ± 27.69) and NMS_(Non Motor Symptoms) (75.06 ± 45.21 vs 71.67 ± 26.35) scores; and lower MoCA_(Montreal Cognitive Assessment) scores (21.92 ± 4.25 vs 22.38 ± 4.57). QRISK3 scores (19.68 ± 16.16 vs 12.90 ± 6.58) and levodopa equivalent daily dose (639.98 ± 223.05 vs 439.69 ± 404.87) were significantly higher in patients with BVLs.

Conclusions: Brain vascular lesions were common in our PD patients, and were associated with higher QRISK3 scores, as well as with higher levodopa equivalent daily dose, suggesting more disease severity.

Key words: Parkinson's disease, brain vascular lesions, magnetic resonance imaging.

Vascular risk factors in patients with Parkinson's disease. Motor and cognitive aspects

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Abstract

Background: Vascular risk factors (VRFs) are common in Parkinson's disease (PD) patients. Studies suggest the association of VRFs with motor severity and cognitive decline in PD.

Material and methods: In 111 consecutive PD patients (mean age 64.87 ± 7.69 y.o.; disease duration 50.21 ± 38.61 mo.; 48 women (43.2%), 63 men (56.8%)) VRFs were assessed by QRISK3_{scale}.

Results: VRFs were present in 106 (95.5%) patients: HBP_(High Blood Pressure) – 74 pts. (66.7%), dyslipidemia – 36 pts. (32.4%), DM_(Diabetes Mellitus) – 20 pts. (18.0%), previous stroke – 14 pts. (12.6%), atrial fibrillation – 12 pts. (10.8%), smoking – 32 pts. (28.8%). Mean VRFs number per patient was 2.62 ± 1.39 . PD onset age (60.44 ± 8.11 vs 60.80 ± 12.79) and disease duration (50.54 ± 38.74 vs 43.20 ± 39.44) were similar in groups. PD+VRFs patients had higher UPDRS_{on} (36.11 ± 12.19 vs 20.00 ± 6.98 , $p = 0.011$) and akinesia-rigidity scores (0.75 ± 0.61 vs 0.38 ± 0.13 , $p = 0.001$). PDQ39_(Parkinson's Disease Questionnaire) (54.41 ± 27.67 vs 41.25 ± 20.16 , $p > 0.05$) were higher, and MoCA_(Montreal Cognitive Assessment) scores (21.64 ± 4.32 vs 22.60 ± 3.29) lower. Significant differences were found for MoCA_{naming} (2.79 ± 0.41 vs 3.00 ± 0.00 , $p = 0.001$), MoCA_{abstracting} (1.46 ± 0.67 vs 2.0 ± 0.01 , $p = 0.001$) and MoCA_{orientation} (5.58 ± 0.99 vs 6.00 ± 0.01 , $p = 0.004$) subscores.

Conclusions: The frequency of vascular risk factors was high in our PD patients, the most common being HBP. Their presence was associated with motor severity and changes in specific cognitive subscores.

Key words: Parkinson's disease, vascular risk factors, MoCA test.