



Official Journal of the International Parkinson and Movement Disorder Society

Movement Disorders

Volume 31 | Issue S2 | June 2016

**Abstracts of the Twentieth International
Congress of Parkinson's Disease
and Movement Disorders**

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The role of active rehabilitation measures, for maintaining the quality of life of patients after stroke with movement disorders in the general practice conditions

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Objective: Assessment of the impact of active rehabilitation measures on quality of life of patients after stroke with movement disorders in primary health care.

Background: Reforms in Uzbekistan carried out in health care and management of the institute GP practices provide a unique opportunity for ongoing monitoring of chronic diseases, and the ability and competence of an integrated approach addressing patients by general practitioners, who are quite capable of carrying out active rehabilitation and preventive measures.

Methods: For the study were recruited 102 patients, of which women 76, and men 26. The age of patients was $45,7 \pm 4,6$ with disease duration from $0,6 \pm 0,2$ years. The main group - 82 patients, and 20 patients of the control group was carried out rehabilitation program in a family clinic for 1 year, which was the basis of maintaining the functional state of the motor areas in the background of traditional therapy.

Results: The study results of the survey with the questionnaire assessment of QoL (SFB -36), showed differences in physical functioning (PF) between the groups, because in the intervention group showed a significant increase in performance ($P < 0.001$). In turn, by improving the PF, there were significant increases performance role function (RP) in the study group ($P < 0.001$). Also found a positive trend ($P < 0.05$) in terms of pain intensity influence on daily activities. However, no difference in terms of general health (GH), i.e. patient assessment of their condition at the moment in both groups there was a significant increase in performance, but in the study group ($P < 0.001$) recorded an increase of 12.6% compared to the control group ($P < 0.02$). And the analysis of the viability assessment showed no particular dynamics of the control group, whereas in the study group was traced a significant increase in performance ($P < 0.001$). Indicators of social functioning (SF) were significantly increased ($P < 0.001$) in patients who underwent intervention in the outpatient setting. SF from the main group - 28.1% higher, in terms of the emotional state (RE). It is also marked by a significant increase of 48.6% of the indicators of mental health (MH) in the study group.

Conclusions: Rehabilitative tactics in patients after stroke with movement disorders in a general medical practice helps to maintain their quality of life.

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Successful treatment of movement disorders after resection of midbrain cavernous malformations: Report of two cases

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Objective: To evaluate the treatment of movement disorders which presented as a consequence of haemorrhage from midbrain cavernous malformations.

Background: Few cases of movement disorders which presented as a consequence of haemorrhage from cavernous malformations of the brainstem were reported in the literature. We present two patients with a haemorrhage from midbrain cavernous malformations which were treated by surgical resection. Both patients developed movement disorders about a month after surgery and were successfully treated with medications.

Methods: Patient T. suffered a haemorrhage from tectal cavernous malformation and presented with occlusive hydrocephalus (GCS 12 an admission). Ventriculo-peritoneal shunting was performed and cavernoma was removed via supracerebellar infratentorial approach in the subacute phase of the haemorrhage. 23 days after surgery patient developed hemidystonia and Parkinsonism symptoms. Patient H. had a haemorrhage from cavernous malformation of right cerebral peduncle. He presented with left-sided hemiplegia and right-sided oculomotor palsy. Cavernoma was removed completely via right pterional transsylvian approach.

He was discharged with the regression of hemiparesis (3/5). 34 days after surgery patient developed tremor in left upper extremity (Holmes tremor).

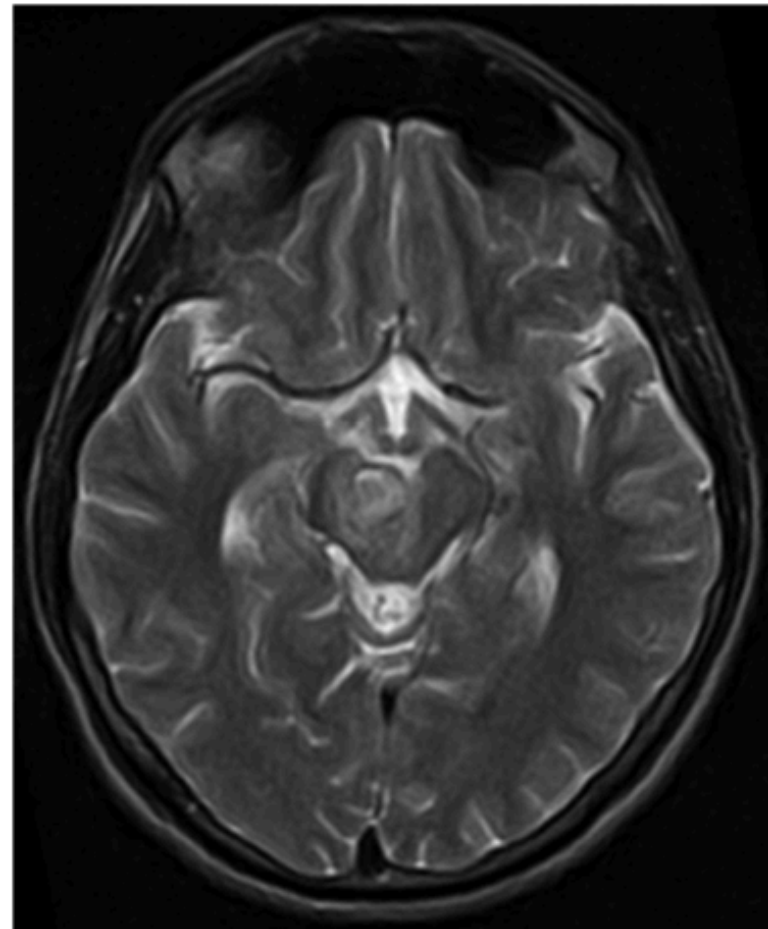


Fig. 1 (1798).

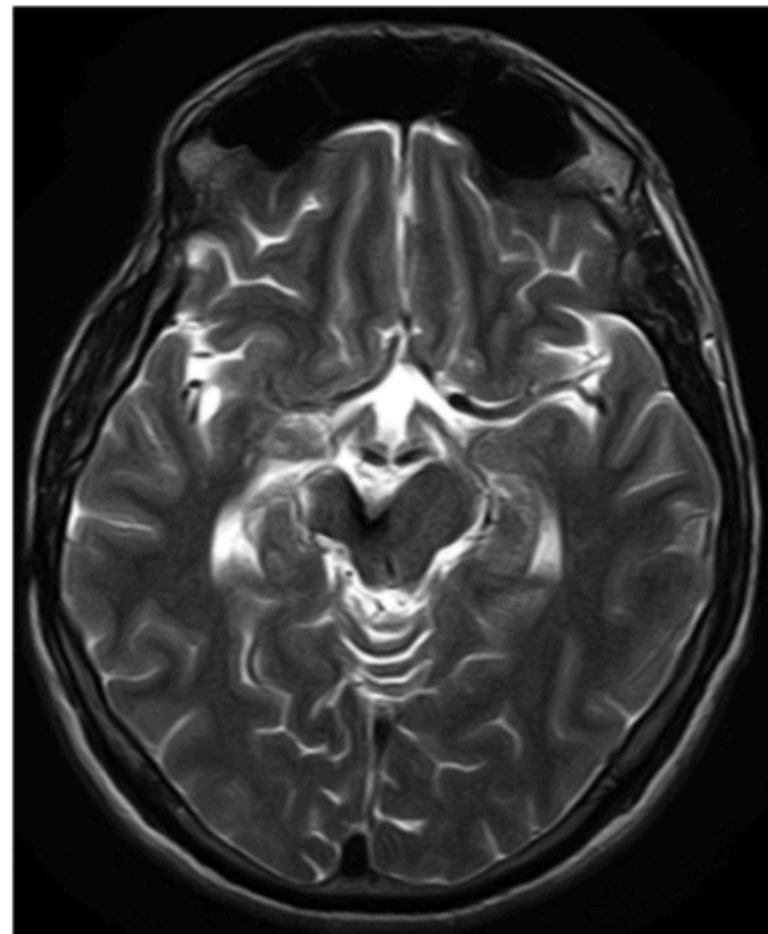


Fig. 2 (1798).

Results: Patient T. (follow-up 4 years) was treated with pramipexole, levodopa, amantadine, clonazepam and levitiracetam. Currently he is symptom-free and receives amantadine 50 mg/day, clonazepam 0.375 mg/day and levitiracetam 500 mg/day. Patient H. (follow-up 3.5 years) received levodopa treatment and his tremor is currently improved more than 50% from the baseline.

Conclusions: Our long-term follow-up on conservative treatment of this rare entity (development of movement disorders after surgical treatment of midbrain cavernous malformations) confirms that it is highly effective.

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Participant feedback in the PREDICT-PD study

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Objective: To explore the underlying motivation behind participation in PREDICT-PD and whether this had an influence on later drop out from the study.

Background: The PREDICT-PD project aims to identify a group 'at higher risk' of Parkinson's disease (PD). Better understanding of why subjects participated is important when considering wider use as a risk-stratification tool.

Methods: Subjects recruited at baseline were invited to provide feedback related to their reasons for taking part and how they had heard about the study. The baseline demographics of those that gave feedback were compared with those that did not, to determine any differences. The reason for participation could be divided broadly into two groups: those who had friends, a spouse or family affected by PD and those with no personal connection to PD. Feedback was used to determine whether comments at baseline influenced continued participation in the study.

Results: Feedback was provided by 774 of the 1323 participants (58.5%) that completed the PREDICT PD survey at baseline. There were no statistically significant differences in gender, family history of PD, or smoking and alcohol use between those that provided feedback and those that did not. There was a small but statistically significant difference in the age of those that provided feedback compared with those that did not (67.5 vs 66.7 years; $p=0.003$). Of the responders, 62.8% had a personal link to PD and the remaining 37.2% were altruistic. Using 3-year follow-up data, there was evidence that those who provided feedback were more likely to remain in the study compared to those that did not (69% vs 56%; $p<0.001$). The reason for taking part did not influence participation at follow-up (63% with a personal link to PD and 64% of those motivated by altruism participated in year 3). Participants learned of the study either by direct email from Parkinson's UK (35%), via friends/family members (47%), or through other media such as newspaper and radio (6.5%).

Conclusions: The majority of participants had a personal reason to participate in PREDICT-PD, but approximately one third had no direct connection with PD. Given the online nature of PREDICT-PD it is unsurprising that most participants learned of the study via email directly from Parkinson's UK or by email/word of mouth from friends and family. This study suggests that recruitment of a large, unbiased group from the general population would be feasible. Reference: 1) Noyce et al. JNNP 2013.

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Fall status and stepping response: Individuals with PD are differently influenced by side-affected

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Objective: To identify differences in compensatory stepping responses (CSR) between Parkinson's disease (PD) fallers and non-fallers in response to external perturbations. Specifically, to investigate if the side most affected differentiates fallers from non-fallers.

Background: Typically, CSRs are employed to regain balance; and if unsuccessful, a fall may occur. Individuals with PD have CSR with shorter step length and more steps compared to healthy older adults. In order to improve CSR, and thus reduce falls, it is crucial to identify how PD-fallers and non-fallers differ in fall situations. Differences in PD CSR due to perturbations have yet to be compared based on fall history. Moreover, it is unknown if the side more affected by PD can identify disparities in CSR based on fall status.

Methods: Twenty-five PD participants were subdivided as fallers or non-fallers based on self-report of two or more falls in the previous 12 months. All participants completed a static lean and release protocol where an unexpected forward perturbation was employed. Participants performed a CSR that was either: i) natural [no specific instruction]; ii)

with their most affected leg first; iii) or least affected first. Spatiotemporal parameters were captured. CSR were compared between groups and side affected.

Results: No significant interactions between groups or trials were found in the natural condition, however an interaction between group and trial was found for the number of steps taken ($p=0.012$). Fallers took significantly more steps when instructed to step with the more affected side compared to least affected, specifically on the first trial. In contrast, non-fallers took significantly more steps when instructed to step with the least affected side compared to the most affected.

Conclusions: As there were no significant differences between PD-fallers and non-fallers when instructed to make a natural CSR in response to a perturbation, impaired ability to compensate for a fall may not underlie fall occurrence. Interestingly, neither fallers nor non-fallers adapted in subsequent trials. Fallers demonstrated a unique behaviour in comparison to non-fallers, in that they had a diminished ability to respond to a perturbation with the most affected leg. This suggests that fallers may use the least affected side to compensate in fall situations, whereas non-fallers likely do not need to offset their response due to side affected.

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Reliability of the sensory organization test to predict falls in individuals with Parkinson's disease

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Objective: To determine the ability of the Sensory Organization Test (SOT) to predict falls in individuals with Parkinson's disease (PD).

Background: Individuals with PD are at an increased risk for falls due to a decline in balance systems and postural control. It is essential to accurately identify individuals with PD at risk for falling so that preventive measures can be put in place. There are several clinical tests to evaluate balance, including the Mini-Balance Evaluation Systems Test (Mini-BESTest) and Sensory Organization Test (SOT). The Mini-BESTest currently is the most reliable test for identifying PD subjects at risk for recurrent falls (Mak, 2013). Unlike the Mini-BESTest, the SOT is an objective, computer-based test. The SOT is used to quantitatively assess an individual's ability to use visual, proprioceptive, and vestibular cues to maintain postural stability, but has not yet been validated as a test for identifying PD subjects at risk of falling.

Methods: 39 subjects with PD (age 70.8 ± 9.9) were identified as fallers or non-fallers based on a history of two or more falls in the past six months. Balance was then evaluated using the SOT and Mini-BESTest tests. PD motor symptoms were evaluated using MDS-UPDRS-III. The SOT was performed twice to account for any learned effects; only the second score was used (DiFrancisco-Donoghue, 2015). All tests were performed at peak medication.

Results: 19 fallers and 20 non-fallers were evaluated. There was a statistically significant difference in the mean Mini-BESTest score of 17.8 ± 5.6 for fallers compared to 24.8 ± 2.3 for nonfallers ($p<0.05$). There was a statistically significant difference in the mean SOT score of 61.8 ± 14.4 compared to 71.8 ± 9.4 for nonfallers ($p<0.05$). The mean MDS-UPDRS-III score for fallers was 33.6 ± 11.6 and 27.8 ± 9.2 for nonfallers, this was not significant. An ROC curve was constructed to determine the optimal cut-off score for determining a high-risk faller with PD. The suggested SOT cut-off score for was 71, with a moderate sensitivity of 70% and specificity of 60%.

Conclusions: Our data suggests the SOT is a reliable test to identify PD subjects at risk for falling. A prospective study examining fall rate and SOT scores would be useful to confirm a cutoff value.

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A case of hemifacial spasm with a right-sided pontine meningioma that resolved with PICA loop vascular decompression surgery

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Objective: To improve our understanding of the pathophysiology and etiology of hemifacial spasm (HFS).

Background: HFS is involuntary unilateral contractions of the muscles innervated by the facial nerve. It is a chronic condition with a prevalence of 9.8 per 100,000 people, affecting more women than men. The pathophysiology of HFS is thought to be due to an abnormality of the facial nerve root entry zone, which can be caused by vascular