

Parkinson's Disease Current Awareness Bulletin

July 2023

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1. Orofacial function and temporomandibular disorders in Parkinson's Disease: a case-controlled study.

Authors: Baram, Sara;Thomsen, Carsten Eckhart;Ozhayat, Esben Boeskov;Karlsborg, Merete and Bakke, Merete

Publication Date: 06 12 ,2023

Journal: BMC Oral Health 23(1), pp. 381

Abstract: BACKGROUND: The difficulties and challenges faced by people with Parkinson's disease (PD) in performing daily orofacial function are not systematically investigated. In this study, specific orofacial non-motor and motor symptoms and functions were systematically examined in PD patients in comparison to a matched control group. METHODS: The clinical case-controlled study was conducted from May 2021 to October 2022 and included persons with PD and age- and gender-matched persons without PD. The participants with PD were outpatients diagnosed with PD at the Department of Neurology at Bispebjerg University Hospital in Copenhagen, Denmark. The participants underwent a systematic clinical and relevant self-assessment of the orofacial function and temporomandibular disorders (TMD). The primary outcomes were objective and subjective assessments of the general orofacial function, mastication, swallowing, xerostomia and drooling. The secondary outcomes were the prevalence of TMD and orofacial pain. The difference in outcome measures between the two groups was analysed using chi-square and Mann-Whitney U test. RESULTS: The study included 20 persons with PD and 20 age- and gender-matched persons without PD. Both objectively and subjectively, persons with PD had poorer orofacial function than the control group. Persons with PD had also a significantly more severe limitation of jaw mobility and jaw function. The objective masticatory function was also significantly reduced for persons with PD compared to the control group, and 60% of persons with PD found it difficult to eat foods with certain consistencies while 0% of the control group reported that problem. Persons with PD could swallow less water per second and the average swallowing event was significantly longer for PD persons. Even though PD persons reported more xerostomia (58% for persons with PD and 20% for control persons), they also reported significantly more drooling than the control group. Additionally, orofacial pain was more prevalent in PD persons. CONCLUSIONS: Persons with PD have a compromised orofacial function. Furthermore, the study indicates a link between PD and orofacial pain. In order to screen and treat persons with PD accordingly, healthcare professionals should be aware of and address these limitations and symptoms. TRIAL REGISTRATION: The trial was approved by the Regional Committee on Research Health Ethics of the Capital Region (H-20,047,464), the Danish Data Protection Agency (514 - 0510/20-3000), and registered at ClinicalTrials.gov (NCT05356845). Copyright © 2023. The Author(s).

2. Supporting Parkinson's disease medication safety for nurses in the acute care setting through an educational intervention study.

Authors: Ellis, D. M.;Dowdell, E. B.;Romero de Slavy, J.;Hummel, L. L.;Kropkowski, L. R.;Vernon, G. M.;Calara, H.;Houton, E.;Wackrow, K.;Matar, N. and Bernhardt, P. W.

Publication Date: 2023

Journal: Journal of Nursing Scholarship : An Official Publication of Sigma Theta Tau International Honor Society of Nursing (pagination), pp. ate of Pubaton: 26 Jun 2023

Abstract: INTRODUCTION: Patient medication safety in the acute care setting is a foundational action provided by nurses and healthcare providers for safe patient care.

Hospitalization of patients with Parkinson's disease (PD) can be dangerous due to the unique and variable medication regimen required. Patients with PD often have their medication administered inappropriately in the acute care setting (e.g., holding a PD medication in preparation for surgery, not administering the medication on the patient's home schedule, and delaying administration). The research question posed in this study was the following: does a PD medication educational intervention in the clinical setting enhance knowledge, comfort, and competence of practicing nurses in the care of patients with PD regarding their medication safety? DESIGN: A mixed methods study design was used for this 5-month, two-part study with a sample of practicing RNs at three different hospitals. Part one of the study assessed nurses' initial knowledge of PD and PD medication safety and included an educational intervention. Part two of the study occurred 3 months later and evaluated if knowledge from the educational intervention was retained. METHOD(S): The study was conducted in two parts and included a pre-test, educational intervention, post-test, and follow-up test 3 months later. The educational intervention consisted of a 15-minute video of two PD advanced practice nurses being interviewed regarding the general care of a patient with PD. The pre-test, post-test, and follow-up test were identical and consisted of six questions regarding knowledge, comfort, and self-perceived competency. Participants were additionally asked three open-ended questions at follow-up to gain insight on the effectiveness of the educational intervention. RESULT(S): A total sample of 252 RNs participated in this study. Statistically significant improvements in knowledge, comfort, and self-perceived competency were observed in the post-test scores compared to pre-test scores. These statistically significant improvements were retained after 3 months, despite a 42.9% decrease in the number of responders (n=252 vs. n=144). Additionally, compared to the post-test, there were no statistically significant declines in knowledge, comfort, or competency in the follow-up test. Qualitative findings indicated that the training regarding PD medications was retained and found to be valuable, even if it was seldom applied in practice. CONCLUSION(S): A review of the literature and this study both support the need for increased education for practicing nurses as it relates to PD and PD medication safety. Healthcare systems, organizations, and associations that support continuing education for nurses create a stronger workforce. Education has been found to keep nurses up to date on the latest advances in care and treatment while also providing exposure to other areas of nursing beyond their clinical settings. CLINICAL RELEVANCE: Promoting better patient outcomes through safe medication administration is a hallmark of nursing care excellence. This study found that supporting the use of an educational intervention of PD medication safety for nurses improved RN levels of knowledge, comfort, and competency up to 3 months later. As the population of those with PD increases, healthcare systems, and nurses must now, more than ever, be poised to care for these individuals. This is a critical point in PD patient care since persons with PD are hospitalized 1.5 times more than their peers without PD. Copyright © 2023 Sigma Theta Tau International.

3. Neuropsychiatric Effects of Bilateral Subthalamic Nucleus Deep Brain Stimulation in Parkinson's Disease: Results at the 12-Month Follow-up.

Authors: Erdem, Nazan Simsek; Gencer, Gokce Yagmur Gunes; Ozkaynak, Sehur Sibel; Ucar, Tanju and Baysal, Ozge Doganavsargil

Publication Date: 2023

Journal: *Noropsikiyatri Arsivi* 60(2), pp. 169-173

Abstract: Introduction: It is aimed to report the effects of bilateral subthalamic nucleus deep brain stimulation (STN-DBS) on motor symptoms, neuropsychiatric symptoms, and quality of life in Parkinson's Disease (PD) patients. Methods: The results of 22 patients with PD, who had undergone bilateral STN-DBS, were analyzed. The Unified Parkinson's Disease Rating

Scale (UPDRS) was applied to assess the patients' clinical characteristics before surgery and 6-, and 12-month follow-up after surgery. The quality of life of the patients was evaluated with the Parkinson's Disease Questionnaire (PDQ-39). Neuropsychological tests including Minnesota Impulse Control Disorders Interview (MIDI), Beck Depression Inventory-II (BDI), Hospital Anxiety and Depression Scale (HADS), Lille Apathy Rating Scale (LARS), and Mini-Mental State Examination (MMSE) were also routinely performed at baseline and 6 months and 12 months after surgery. Results: The mean age of patients was 57.3+/-8.8 years. Fourteen patients (63.6%) were male. Significant improvements were seen in UPDRS-part-II, UPDRS-part-III UPDRS-part-IV, and PDQ-39 in the follow-ups after the surgery. No significant change was observed in 6- and 12-month follow-up visits for BDI, HADS, MMSE, and LARS, compared to baseline. A depressive episode, requiring antidepressant treatment was recorded in four (18.1%) patients. Before DBS surgery, eight patients had at least one current impulse control behaviors (ICBs). Among these eight patients; ICBs disappeared in one patient, did not change in two patients, and worsened in five patients after STN-DBS treatment. Conclusion: In patients with a history of psychiatric disease, bilateral STN-DBS treatment may aggravate psychiatric symptoms such as depression, and ICBs. Copyright: © 2023 Turkish Neuropsychiatric Society.

4. Dying with Parkinson's Disease: a Survey of Clinical Practice

Authors: Frake, R., Tacconi, E.M.C. and Miller, M.

Publication Date: 2023

Publication Details: BMJ Supportive and Palliative Care. Conference: Palliative Care Congress, Sustaining Each Other, Growing Together. Edinburgh United Kingdom. 13(Supplement 3) (pp A33-A34); BMJ Publishing Group,

Abstract: Background Patients with Parkinson's disease (PD) may have an unsafe swallow and unreliable absorption of oral dopamine therapy when dying. First line symptom management medication have anti-dopaminergic activity. Transdermal dopamine replacement, rotigotine, may cause delirium. Aims To understand prescribing practice for patients with PD at end of life in an acute hospital. * dopamine replacement therapy * adjustments to treatment where signs of rigidity or symptoms and signs of delirium * medication use in symptom management. Methods Deaths where PD/atypical PD entered on medical certificate of cause of death (MCCD) were collated in a 12- month period 2021.22. A data collection form was tested and refined. A convenience sample of deaths (60%) was selected. Electronic patient records were reviewed, anonymised data collected and stored on secure NHS drives. Data was analysed by all authors. Ethics permission was not sought as the survey examined routine clinical practice. Results 55 patients had PD/atypical PD on their MCCD over a 12-month period, 2% of all adult inpatient deaths. 31 patients had idiopathic PD, 1 Multisystems atrophy and 1 Progressive Supranuclear Palsy in the sample. The severity of PD was mixed. 79% were recognised to be approaching the end of life. Where death was expected, 7 were prescribed orodispersible dopamine replacement therapy, 20 transdermal therapy, all had dopamine replacement therapy. No prescription was adjusted, though agitation and/or delirium noted in 50% of patients. Anticipatory medications with anti-dopaminergic activity were prescribed in 58% of expected deaths and in 50% where death was not expected. Where death was expected, advice was sought from palliative care (79% patients), inpatient PD specialist nurse (7%) and neurologists (4%). Conclusion Prescribing practice in patients dying with PD needs improvement. Prescribing guidelines were disseminated locally and educational content developed to improve practice.

5. Identifying Deficiencies in the Hip Fracture Care of Parkinson Disease Patients: A Descriptive Comparison to Non-Parkinson Patients

Authors: HuykeHernandez, F., Parashos, S., Schroder, L. and Switzer, J.

Publication Date: 2023

Publication Details: Geriatric Orthopaedic Surgery and Rehabilitation. Conference: 10th Fragility Fracture Network Congress. Melbourne, VIC Australia. 14 (pp 43); SAGE Publications Inc.,

Abstract: Introduction: Parkinson disease (PD) patients are susceptible to hip fractures and may experience suboptimal outcomes possibly due to care deficiencies. The purpose of this study was to describe and compare characteristics and outcomes of hip fracture patients with PD to those without PD in order to identify target areas of care improvement. Method(s): This retrospective cohort study included all patients admitted for acute hip fracture (i.e. proximal femur) within a large healthcare system (2017-2019). Patient characteristics, Charlson Comorbidity Index (CCI), and outcomes (complications, readmissions, and mortality) were extracted from the electronic medical record. PD patients were compared to non-PD patients via chi-square, Fisher exact, and two-sample student t-tests. Result(s): 1239 patients were included (4.0% PD, 96.0% non-PD). PD patients were predominantly male compared to non-PD (59.2% vs 30.6%, P 0.191). Conclusion(s): Outcomes between PD patients and non-PD patients did not differ significantly, although PD patients more frequently discharged to a higher-level care environment. Early bone health evaluation, multidisciplinary collaboration, and care coordination can be targets of improvement for preventing and treating hip fractures in patients with PD.

6. "Lower Body" Parkinsonism and the Differential of Dementia and Movement Disorders

Authors: Kohlmeier, A.K. and Kinahan, C.

Publication Date: 2023

Publication Details: Journal of the American Geriatrics Society. Conference: American Geriatrics Society Annual Meeting, AGS 2023. Long Beach, CA United States. 71(Supplement 1) (pp S99); John Wiley and Sons Inc,

Abstract: Background: Vascular Parkinsonism is a phenomenon in which ischemic cerebrovascular disease causes secondary Parkinsonism. Because symptoms of vascular Parkinsonism manifest predominantly as gait and lower extremity dysfunction, it is sometimes called "lower body" Parkinsonism. Vascular Parkinsonism responds less or not at all to typical Parkinson's disease treatments. No formal diagnostic criteria for this condition exist. Case Description: A male veteran in his 70's presented to a Memory Clinic for evaluation of cognitive impairment. Neuropsychological testing showed a major neurocognitive disorder, attributed to vascular versus Alzheimer's dementia. Reversible causes of dementia, including thyroid and B12, were excluded. MRI brain showed chronic microvascular white matter disease, consistent with suspected vascular dementia. Unexpectedly, this veteran later exhibited a gait disturbance characterized by "magnetic" steps and truncal instability. His wife reported that he had been having similar episodes of gait disturbance for years, previously attributed to peripheral neuropathy secondary to diabetes. A broad differential was considered, including idiopathic Parkinson's disease with incidental microvascular disease, vascular Parkinsonism, atypical Parkinsonian disease, normal pressure hydrocephalus (NPH), stroke, and Lewy body dementia. Repeat MRI of

the brain was negative for acute stroke or NPH. Neurological testing demonstrated bradykinesia in rapid movements more profound in the lower body and greater on the left than the right. The combination of lower body predominant Parkinsonian findings and known microvascular disease suggested a diagnosis of vascular Parkinson. The veteran was offered Carbidopa- Levodopa with the caveat that vascular Parkinsonism may not respond to dopamine agonist therapy. He will continue risk factor modification for microvascular disease. Future interventions will include fall risk reduction. Conclusion(s): This case illustrates the overlap of risk factors, cognitive symptoms, and neurological findings in the differential of dementia and movement disorders, which makes diagnosis challenging. Although no established diagnostic criteria for vascular Parkinsonism exist and the diagnosis remains controversial, this case also demonstrates that consideration of "lower body" Parkinsonism in the differential is important to offering appropriate treatment and counseling for patients.

7. Effects of Functional Electrical Stimulation Cycling Combined With Arm Cranking Exercise on Cardiorespiratory Fitness in People With Central Nervous System Disorders: A Systematic Review and Meta-analysis.

Authors: Mate, S.;SinanFornusek, C.;Dhopte, P.;Singh, M. F.;Hackett, D. and Fornusek, C.

Publication Date: 2023

Journal: Archives of Physical Medicine and Rehabilitation (pagination), pp. ate of Pubaton: 2023

Abstract: Objective: To examine the evidence regarding the potential of hybrid functional electrical stimulation (FES) cycling for improving cardiorespiratory fitness for people with a mobility disability related to a central nervous system (CNS) disorder. Data Sources: Nine electronic databases: MEDLINE, EMBASE, Web of Science, CINAHL, PsycInfo, SPORTDiscus, Pedro, Cochrane, and Scopus, were searched from inception until October 2022. Study Selection: Search terms included multiple sclerosis, spinal cord injury (SCI), stroke, Parkinson's disease, cerebral palsy, synonyms of FES cycling, arm crank ergometry (ACE) or hybrid exercise, and VO₂. All experimental studies, including randomized controlled trials that included an outcome measure related to peak or sub-maximal VO₂ were eligible. Data Extraction: From a total of 280 articles, 13 were studies included. The Downs and Black Checklist was used to assess study quality. Random effects (Hedges' g) meta-analyses were undertaken to determine whether there were differences in VO₂peak during acute bouts of hybrid FES cycling vs other modes of exercise and changes resulting from longitudinal training. Data Synthesis: During acute bouts of exercise, hybrid FES cycling was moderately more effective than ACE (effect size [ES] of 0.59 (95% CI 0.15-1.02, P=.008) in increasing VO₂peak from rest. There was a large effect on the increase of VO₂peak from rest for hybrid FES cycling compared with FES cycling (ES of 2.36 [95% CI 0.83-3.40, P=.003]). Longitudinal training with hybrid FES cycling showed a significant improvement in VO₂peak from pre to post intervention with a large, pooled ES of 0.83 (95% CI 0.24-1.41, P=.006). Conclusion(s): Hybrid FES cycling produced higher VO₂peak compared with ACE or FES cycling during acute bouts of exercise. Hybrid FES cycling can improve cardiorespiratory fitness in people with SCI. Additionally, there is emerging evidence that hybrid FES cycling might increase aerobic fitness in people with mobility disability related to CNS disorders. Copyright © 2023 American Congress of Rehabilitation Medicine

8. 25-year trends in first-time hospitalizations for Parkinson's disease and subsequent mortality: A Danish nationwide cohort study.

Authors: Osler, M.; Okholm, G. T.; Jorgensen, T. S. H. and Rozing, M. P.

Publication Date: Jul ,2023

Journal: Parkinsonism & Related Disorders 112, pp. 105471

Abstract: BACKGROUND: In most countries, incidence and mortality for Parkinson's disease (PD) have not been monitored by surveillance registries, although it could demonstrate the need for primary and tertiary prevention. OBJECTIVE: To examine 25-year trends in first-time hospitalizations for PD in Denmark and subsequent short and long-term mortality. METHODS: In a nationwide population-based cohort we identified all 34,947 individuals with a first-time hospitalization for PD from 1995 through 2019. We calculated standardized incidence rates of PD and 1-year and 5-year mortality by sex. Mortality rates were compared with a reference cohort randomly selected from the background population matched on sex, age, and index date. RESULTS: The annual standardized incidence rate of PD was relatively stable during the study period in both men and women. The incidence of PD was higher in men than in women and with the highest incidence in those aged 70-79 years. One and 5-year mortality risk after first-time hospitalization for PD was similar for men and women, and decreased by around 30% and 20%, respectively, between 1995 and 2019. The matched reference cohort had a similar decline in mortality over time. CONCLUSION: The rate of first-time hospitalization for PD was relatively stable between 1995 and 2019, whereas subsequent short and long-term mortality declined during the period as in the reference cohort. Copyright © 2023 The Authors. Published by Elsevier Ltd.. All rights reserved.

9. Minimally Invasive Spine Surgery for Kyphoscoliosis in a Patient With Parkinson's Disease: A Case Report

Authors: Polythodorakis, I., Brotis, A., Charitidis, C., Lycomitros, V., Liveris, I. and Paterakis, K.

Publication Date: 2023

Publication Details: United States:

Abstract: The surgical treatment for severe deformity correction in patients with Parkinson's disease (PD) is usually challenging, requiring lengthy fusions, and with a high risk of postoperative complications. We present a patient with severe kyphoscoliosis and medical history of PD undergoing minimally invasive surgical deformity correction. A 75-year-old female with a 10-year history of medically controlled PD presented at our hospital's outpatient reporting progressive postural changes during the last two years and a half. On clinical examination, we recognized severe kyphoscoliosis associated with Pisa deformity, in the absence of any neurological manifestations. On the initial x-rays, the coronal angulation was 56degree in the lumbar area with a significant lateral shift of the trunk, while the right ribs were close to the iliac crest. The patient underwent deformity correction with percutaneous pedicle screws from T5 to S1, a percutaneous transverse process hooks at T5, and transforaminal lumbar interbody fusion at L5-S1. The total duration of the operation was seven hours, and the estimated blood loss was approximately 300 mL. Clinically, the patient's posture improved significantly, alleviating any preoperative compensatory mechanisms such as knee flexion. The postoperative x-rays revealed a very satisfying correction in both the coronal and sagittal planes (20.1 degrees and 26.6 degrees,

respectively). Our current case report showed that MIS constitutes a viable alternative for deformity correction in selected patients with PD as part of a multidisciplinary approach. Proper patient selection requires a detailed medical history and a complete neurological and musculoskeletal examination by a dedicated healthcare provider. Copyright © 2023, Polythodorakis et al.

10. Utilizing a tablet-based artificial intelligence system to assess movement disorders in a prospective study.

Authors: Purk, Maximilian;Fujarski, Michael;Becker, Marlon;Warnecke, Tobias and Varghese, Julian

Publication Date: 06 26 ,2023

Journal: Scientific Reports 13(1), pp. 10362

Abstract: Spiral drawings on paper are used as routine measures in hospitals to assess Parkinson's Disease motor deficiencies. In the age of emerging mobile health tools and Artificial Intelligence a comprehensive digital setup enables granular biomarker analyses and improved differential diagnoses in movement disorders. This study aims to evaluate on discriminatory features among Parkinson's Disease patients, healthy subjects and diverse movement disorders. Overall, 24 Parkinson's Disease patients, 27 healthy controls and 26 patients with similar differential diagnoses were assessed with a novel tablet-based system. It utilizes an integrative assessment by combining a structured symptoms questionnaire-the Parkinson's Disease Non-Motor Scale-and 2-handed spiral drawing captured on a tablet device. Three different classification tasks were evaluated: Parkinson's Disease patients versus healthy control group (Task 1), all Movement disorders versus healthy control group (Task 2) and Parkinson's Disease patients versus diverse other movement disorder patients (Task 3). To systematically study feature importances of digital biomarkers a Machine Learning classifier is cross-validated and interpreted with SHapley Additive exPlanations (SHAP) values. The number of non-motor symptoms differed significantly for Tasks 1 and 2 but not for Task 3. The proposed drawing features partially differed significantly for all three tasks. The diagnostic accuracy was on average 94.0% in Task 1, 89.4% in Task 2, and 72% in Task 3. While the accuracy in Task 3 only using the symptom questionnaire was close to the baseline, it greatly improved when including the tablet-based features from 60 to 72%. The accuracies for all three tasks were significantly improved by integrating the two modalities. These results show that tablet-based drawing features can not only be captured by consumer grade devices, but also capture specific features to Parkinson's Disease that significantly improve the diagnostic accuracy compared to the symptom questionnaire. Therefore, the proposed system provides an objective type of disease characterization of movement disorders, which could be utilized for home-based assessments as well.Clinicaltrials.gov Study-ID: NCT03638479. Copyright © 2023. The Author(s).

11. Anti-Seizure Medications on Trial Again: Accused of Parkinson's Disease!.

Authors: Sarkis, R. A.

Publication Date: 2023

Journal: Epilepsy Currents (pagination), pp. ate of Pubaton: 2023

Abstract: Association Between Antiepileptic Drugs and Incident Parkinson Disease Belete D, Jacobs BM, Simonet C, Bestwick JP, Waters S, Marshall CR, Dobson R, Noyce AJ.

JAMA Neurol. 2023;80(2):183-187. doi:10.1001/jamaneurol.2022.4699 Importance: Recent studies have highlighted an association between epilepsy and Parkinson disease (PD). The role of antiepileptic drugs (AEDs) has not been explored. Objective(s): To investigate the association between AEDs and incident PD. Design, setting, and participants: This nested case-control study started collecting data from the UK Biobank (UKB) in 2006, and data were extracted on June 30, 2021. Individuals with linked primary care prescription data were included. Cases were defined as individuals with a Hospital Episode Statistics (HES)-coded diagnosis of PD. Controls were matched 6:1 for age, sex, race and ethnicity, and socioeconomic status. Prescription records were searched for AEDs prescribed prior to diagnosis of PD. The UKB is a longitudinal cohort study with more than 500 000 participants; 45% of individuals in the UKB have linked primary care prescription data. Participants living in the UK aged between 40 and 69 years were recruited to the UKB between 2006 and 2010. All participants with UKB-linked primary care prescription data (n = 222 106) were eligible for enrollment in the study. Individuals with only a self-reported PD diagnosis or missing data for the matching variables were excluded. In total, 1477 individuals were excluded; 49 were excluded due to having only self-reported PD, and 1428 were excluded due to missing data. Exposures: Exposure to AEDs (carbamazepine, lamotrigine, levetiracetam, and sodium valproate) was defined using routinely collected prescription data derived from primary care. Main Outcomes and Measures: Odds ratios and 95% CIs were calculated using adjusted logistic regression models for individuals prescribed AEDs before the first date of HES-coded diagnosis of PD. Result(s): In this case-control study, there were 1433 individuals with an HES-coded PD diagnosis (cases) and 8598 controls in the analysis. Of the 1433 individuals, 873 (60.9%) were male, 1397 (97.5%) had their race and ethnicity recorded as White, and their median age was 71 years (IQR, 65-75 years). An association was found between AED prescriptions and incident PD (odds ratio, 1.80; 95% CI, 1.35-2.40). There was a trend for a greater number of prescription issues and multiple AEDs being associated with a greater risk of PD. Conclusions and relevance: This study, the first to systematically look at PD risk in individuals prescribed the most common AEDs, to our knowledge, found evidence of an association between AEDs and incident PD. With the recent literature demonstrating an association between epilepsy and PD, this study provides further insights. Copyright © The Author(s) 2023.

12. Characterizing Camptocormia in Parkinson's Disease Using Muscle Ultrasonography.

Authors: Yilmaz, R.;Wolke, R.;Puls, N.;Sorgun, M. H.;Deuschl, G.;Berg, D. and Margraf, N. G.

Publication Date: 2023

Journal: Journal of Parkinson's Disease (pagination), pp. ate of Pubaton: 10 Jun 2023

Abstract: BACKGROUND: Camptocormia (CC) is the forward-bending of the spine of more than 30 degrees that can be found in Parkinson's disease (PD) as a disabling complication. Detection of changes in paraspinal lumbar musculature in CC is of value for choosing treatment strategies. OBJECTIVE(S): To investigate whether these changes can be detected using muscle ultrasonography (mUSG). METHOD(S): Age and sex-matched groups comprised 17 PD patients with CC (seven acute, PD-aCC; 10 chronic PD-cCC), 19 PD patients with no CC, and 18 healthy controls (HC). Lumbar paravertebral muscles (LPM) on both sides were assessed using mUSG by two different raters blinded to the group assignment. Groups were compared with regard to the linear measurements of the muscle thickness as well as semi-quantitative and quantitative (grayscale) analyses of muscle echogenicity using a univariate general linear model. RESULT(S): All assessments showed substantial interrater reliability. The PD-cCC group had significantly thinner LPM compared

to groups with no CC (PD and HC). Groups of PD-aCC and PD-cCC differed from the groups of no CC in quantitative and semi-quantitative analyses of LPM echogenicity, respectively. CONCLUSION(S): Assessment of LPM in PD patients with CC can be reliably performed using mUSG. Also, mUSG may be used as a screening tool to detect CC-related changes in thickness and echogenicity of the LPM in patients with PD.

Sources Used:

The following databases are used in the creation of this bulletin: Medline and EMBASE

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