



THE TRANSMITTER

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Article Reviews

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α -Synuclein in Plasma-Derived Extracellular Vesicles Is a Potential Biomarker of Parkinson's Disease

There is a pressing need for non-invasive biomarkers in Parkinson's disease, particularly in early disease stages. In this study, the authors aimed to examine the utility of α -synuclein in plasma extracellular vesicles from patients with Parkinson's disease (PD) as a potential disease biomarker. Samples were derived from two independent cohorts, totaling 143 patients with PD, 93 patients with dementia with Lewy bodies, 50 patients with progressive supranuclear palsy (PSP), 42 healthy controls, and 36 controls with secondary parkinsonism. Patients were diagnosed based on validated clinical criteria. In the first cohort, they found that α -synuclein concentration in plasma extracellular vesicles provided the best discrimination between PD, dementia with Lewy bodies, PSP, and healthy controls with an area under the curve of 0.804 (PD vs dementia with Lewy bodies), 0.815 (PD vs. PSP), and 0.769 (PD vs healthy controls). In the PD group, the concentration of α -synuclein did not correlate with sex, age, age at disease onset, disease duration, or Mini-Mental State Examination. Although age differed among the different diagnostic groups, controlling for age revealed that this did not have a significant impact on α -synuclein concentrations. These results were validated in the second cohort, suggesting that α -synuclein concentration in plasma extracellular vesicles may serve as a non-invasive diagnostic biomarker for PD.

Stuendl, A., Kraus, T., Chatterjee, M., Zapke, B., Sadowski, B., Moebius, W., Hobert, M.A., Deuschle, C., Brockmann, K., Maetzler, W., Mollenhauer, B. and Schneider, A. (2021), α -Synuclein in Plasma-Derived Extracellular Vesicles Is a Potential Biomarker of Parkinson's Disease. *Mov Disord*, 36: 2508-2518. <https://doi.org/10.1002/mds.28639>

Future Therapeutic Strategies for Freezing of Gait in Parkinson's Disease

Freezing of gait (FOG) remains one of the most challenging symptoms to treat in Parkinson's disease (PD). This review article summarizes recent insights and strategies to address freezing of gait. The pathophysiology of FOG in PD is poorly understood, with several potential models likely contributing to various degrees in any individual patient. The authors review pharmacological (dopaminergic and non-dopaminergic), non-pharmacological (physical therapy and cueing, cognitive training, and non-invasive brain stimulation) and surgical approaches to FOG (dual-site deep brain stimulation, closed-loop programming). They highlight the need to develop standardized measures of gait freezing, including objective visual assessment tools, wearable technologies, and biomarkers for FOG (e.g. EEG signal changes). An integrated, collaborative approach is needed to develop more effective treatments for freezing of gait in the future.

Demographic Influences on the Relationship Between Fatigue and Quality of Life in Parkinson's Disease

In this study, the authors utilized data from the Fox Insight study to determine whether certain demographic characteristics modify the relationship between fatigue and health-related quality of life (HR-QOL) in Parkinson's disease (PD). Fatigue is a very common non-motor PD symptom, occurring in up to 70% of patients, and is associated with lower HR-QOL and increased risk of disease complications. This study included 1209 participants with PD (44% female, mean age 67.4 years, and mean disease duration 4.6 years). Participants completed the Parkinson's Disease Quality of Life-8 item questionnaire (PDQ-8), the Parkinson Fatigue Scale (PFS-16) and the Geriatric Depression Scale (GDS-15). The authors applied multivariable linear regression modeling, and found that the association between fatigue and worse HR-QOL is greater at a younger age and in individuals with more depressive symptoms. They note that the drivers of fatigue may be different for younger individuals compared to older individuals with PD. Sex and disease duration did not have a modifying effect on the relationship between fatigue and HR-QOL. The authors conclude that targeted interventions aimed at younger or depressed individuals with PD may have the greatest impact on fatigue and HR-QOL.

Mantri, S., Chahine, L.M., Nabieva, K., Feldman, R., Althouse, A., Torsney, B., Albert, S.M., Kopil, C. and Marras, C. (2021), Demographic Influences on the Relationship Between Fatigue and Quality of Life in Parkinson's Disease. *Mov Disord Clin Pract.* <https://doi.org/10.1002/mdc3.13360>

Committee Activities

Clinical Care Committee

- **Rotation of Committee Chair:** Leadership for the clinical care committee rotates amongst the PADRECCs. The Northwest/Portland PADRECC leads the committee for November/December. The committee meets via conference call the first Tuesday of the month at 12pm (EST)
- **Standardize and Optimize Clinical Care:** The committee continues to discuss latest research on PD, new treatment strategies and a variety of clinical issues to improve patient care and outcomes. It also serves to provide clinical support to the consortium network by focusing on measures to standardize clinical care across the PADRECC network. Recent agenda items have included discussions on:
 1. Discussion regarding COVID 19 pandemic-clinical challenges and solutions.
 2. Exploring new diagnostic procedures especially Syn-One test – evidence review and use in the PADRECC/VA
 3. Clinical experience and comparative use of three available DBS systems including Boston Scientific's "Vercise", Abbott's "Infinity", and Medtronic's "Percept" within the six PADRECCs
 4. Updates on clinical experience with newer medications – Nourianz (Adenosine Receptor antagonist), Gocovri and Imbrija Inhaler
 5. CSP # 2015 Trial, planning and trial initiation related matters.

Education Committee

- **PADRECC/EES Movement Disorder Series-Webinar:** knowledge-based webinars to provide VHA healthcare professionals with current practice standards and emerging trends in the treatment of Parkinson's disease and other movement disorders. CEs are typically provided for the live webinars. Check out the following link for a list of past webinars and if you are interested in receiving a recording of a past webinar please email Gretchen.glenn@va.gov and list the date/topic of interest:
https://www.parkinsons.va.gov/Consortium/Presentations/Audio_Conference/MDS.asp

Planning is underway for the **FY 22 MDS Webinar Series** which will have a new format to include 2 webinar sessions that are 3-4 hours long. **Save the Date** for the 1st webinar which will include topics on: PD 101, Whole Health, Beyond PD and Exercise. Date: **February 10th** time to be determined.

- **VHA/PADRECC & The Parkinson's Foundation Partnership:** Goal of the partnership is to improve the care and quality of life for Veterans living with PD through collaborative education, research and services. We are now one year into the partnership and much of the foundational work has been done. This committee continues to spearhead many of the projects for this partnership.
- **National Website Maintenance:** The committee performs periodic maintenance checks of the National Website to ensure information is current and up-to-date.
- **PADRECC Transmitter:** This committee continues to assemble and distribute this *e*-newsletter every other month.
- **Resources available on the National Website:**
 - **Patient Education Brochures-** <https://www.parkinsons.va.gov/patients.asp>
 - Exercise and Physical Activity
 - Fall Prevention
 - PD Medications
 - Motor Symptoms
 - Non-Motor Symptoms
 - Agent Orange and Toxic Exposures and PD (*recently updated*)
 - **PADRECC Support/Education Groups:** The PADRECCs are now holding virtual groups open to Veterans and care partners interested in attending. Please check out the National Website for listing of dates/times and contact person to register for the groups and please share with your patients/care partners: <https://www.parkinsons.va.gov/patients.asp>
 - **My Parkinson's Story-**<https://www.parkinsons.va.gov/patients.asp>
A series of short videos prepared by the VA PADRECCs addressing various aspects of Parkinson's disease.
 - **Suggested Education Essentials for Veterans with PD** <https://www.parkinsons.va.gov/patients.asp>
 - **Resource Request Form-**PADRECC staff and consortium members can order bulk supply of FREE educational materials from PF and APDA. Please click on the following website link and complete the **Resource Request Form** and fax or email to address listed:
<https://www.parkinsons.va.gov/clinicians.asp>
 - **PADRECC Pocket Card:** *Parkinson's Disease Quick Reference Guide for Imitating Therapy* is available on the National Website:
<https://www.parkinsons.va.gov/Consortium/PocketCard/PocketCard19.pdf>

Dates to Remember

February 10th, 2022 -- SAVE THE DATE

EES/PADRECC Movement Disorders Series-Webinar

Topics: PD 101, Whole Health, Beyond PD and Exercise

Registration information coming soon

April 2-7, 2022

American Academy of Neurology - Annual Meeting

Seattle, Washington

[Annual Meeting: World's Premier Neurology Meeting | AAN](#)

July 4-7, 2023

6th World Parkinson Congress

Barcelona, Spain

[World Parkinson Congress \(wpc2023.org\)](http://wpc2023.org)