Meeting Title: 11th PDBP Annual Meeting
Sponsor: NINDS

Purpose:

The 2023 NINDS Parkinson's Disease Biomarkers Program (PDBP) Annual Meeting provided a forum for participating scientists and stakeholders to discuss recent progress and emergent opportunities in Parkinson's disease (PD), Lewy body dementia (LBD), and related parkinsonism biomarker research.

Background:

Since its establishment in 2012, the PDBP has sought to promote the discovery of PD biomarker candidates for early detection and measurement of disease progression. Clinical and biospecimen data are accessible through a common web-based PDBP Data Management Resources (DMR). Clinical data are associated with biospecimens banked and distributed to the research community through the NINDS Biomarkers Repository (BioSEND). Assay data from biospecimens is also deposited in the DMR for researchers. In addition, blood is also used to generate induced pluripotent stem cell lines (iPSCs) through the NINDS Human Cell and Data Repository (NHCDR). The PDBP serves as a platform for: integrating existing biomarker efforts, standardizing data collection and management, accelerating the discovery of new biomarkers, as well as fostering and expanding collaborative opportunities for all stakeholders with the overarching goal of improving clinical trial design in PD and related disorders.

Summary of meeting discussion:

The 2023 NINDS PDBP Annual Meeting (hybrid) was held on September 21st, 2023. Principal investigators, clinical coordinators and data management experts from each PDBP project, persons with lived experience, as well as representatives from the National Institutes of Health (NIH) and PD nonprofit organizations met to discuss biomarkers research and progress made over the last twelve months.

The meeting began with opening remarks and study updates focused on the development of skin biomarkers and multimodal biomarkers for parkinsonism syndromes, as well as oligogenic biomarkers in a genetic cohort of PD patients. This session also included a presentation that studied cholinergic deficits and cognitive decline in PD.

A persons with lived experience (PWLE) panel discussion was held where caregivers shared their experiences and participation in PD and LBD research. This was followed by investigators highlighting their LBD studies on systematic endophenotyping within the U.S. Dementia with

Lewy Bodies Consortium (DLBC), longitudinal imaging approaches, and protein biomarkers of corticolimbic pathophysiology.

The keynote presentation described ongoing research within home visits and caregiver peer mentoring in advanced PD and LBD. The keynote talk was followed by study updates on biomarker discovery in progressive supranuclear palsy (PSP) and idiopathic PD, as well as the AT-HOME PD study (Assessing Tele-Health Outcomes in Multiyear Extensions of PD Trials).

The meeting concluded with presentations from investigators that are part of the NINDS Udall Centers of Excellence for Parkinson's Disease Research. Investigators described emerging research including inflammatory changes in PD, neuronal signatures of movement impairment in people with PD, and how cortical rhythms correlate with PD.

Conclusions:

A number of efforts from PDBP investigators (https://pdbp.ninds.nih.gov/projects-we-support) are underway towards PD biomarker discovery and validation in the areas of clinical phenotyping, neuroimaging, genomics, transcriptomics, proteomics, and metabolomics. Concurrently, the DMR continues to serve as a central resource for well-characterized clinical data as well as associated biospecimens collected and processed in a standardized manner. As the PDBP enters its twelfth year, additional genomics and neuroimaging data will be available in the DMR, including proteomic data and neuropathology data. Furthermore, as new and existing collaborative efforts continue to grow among PDBP and Udall investigators, AMP-PD and industry partners, so too will the contributions towards the advancement and discovery of PD biomarkers.

Note: Additional links may be added over time to include published proceedings, formal recommendations, etc.

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