



Parkinson's Disease Foundation

PD Expert Briefing:
Dealing with Dementia in PD

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Medical Center in Chicago, IL.

This session was held on:
Tuesday, March 1, 2016 at 1:00 PM ET.

If you have any questions,
please contact: Valerie Holt
at vholt@pdf.org or call
(212) 923-4700

**Parkinson's
Disease
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Hope through Research • Education • Advocacy

Introduction

Robin A. Elliott, President
Parkinson's Disease Foundation

Dealing with Dementia in PD

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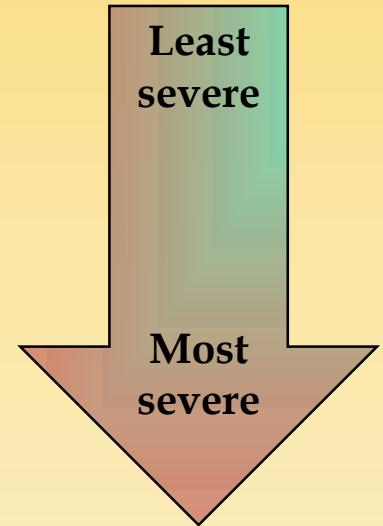
Objectives

- Learn about the clinical symptoms and current research on the risks and causes of dementia in PD
- Discuss treatment and management strategies for dementia in PD
- Find practical tips and resources for people with Parkinson's and care partners when dealing with dementia in PD

Clinical Symptoms, Risks, and Causes of Dementia in PD

Broad Spectrum of PD Cognitive Impairment

- Severity
 - Bradyphrenia
 - Mild cognitive impairment
 - Dementia
- Clinical features
 - Different cognitive domains can be affected



Diagnosing Cognitive Problems in PD

- Patient report
- Informant report
- Clinician observation
- Objective evidence
 - Neuropsychological tests
- Diagnostic criteria
 - Example: Movement Disorder Society (MDS) Task Force for PD Dementia and PD Mild Cognitive Impairment

Cognitive Features in PD

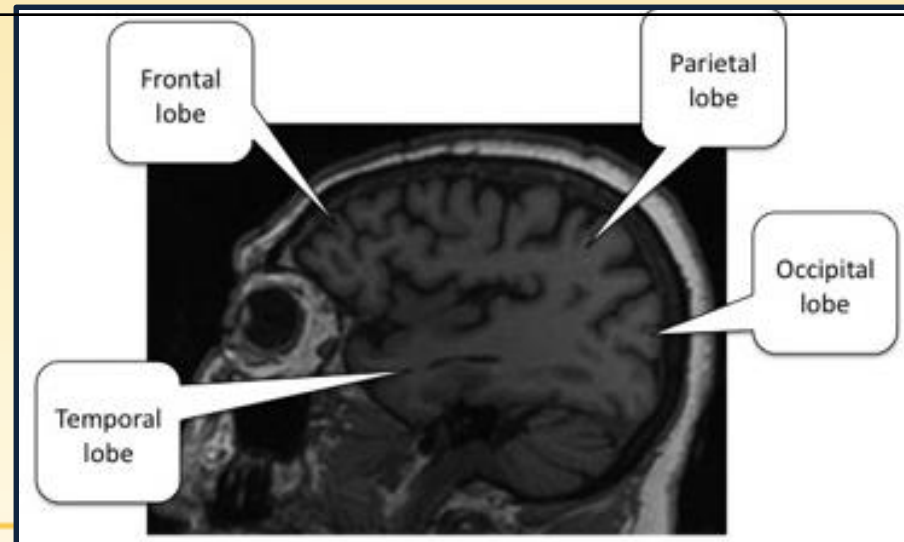
- Mild cognitive complaints are common
- Slower thinking
- “Executive dysfunction”
 - Trouble with planning, organizing, problem solving, “multi-tasking”
 - Difficulty shifting between tasks
- Decreased attention and concentration

Other Cognitive Features in PD

- Memory
 - Short-term memory: problems with retrieval of information
 - Recall generally improves when given cues
 - Long-term memory: usually OK
- Visuospatial dysfunction
 - Impaired sense of direction or spatial maps
- Language
 - Word finding difficulty

Different Parts of the Brain Can Be Affected in PD Cognitive Impairment

Cognitive domain	Area of the brain involved
Attention/working memory	Frontal lobe including the dorsolateral prefrontal cortex, parietal lobe, basal ganglia
Executive function	Prefrontal cortex, basal ganglia
Language	Temporal lobe
Memory	Temporal lobe including hippocampus (declarative memory), basal ganglia (procedural memory)
Visuospatial function	Parietal, occipital lobes



Cognitive Impairment in PD

- Frequency estimates in literature vary
- Mild cognitive impairment may occur in about 20-50% of people with PD
- Mild deficits may be present at diagnosis or in early stage PD
- About 40% develop more severe deficits (dementia), which may increase with more advanced PD
- Note - not every person with PD develops cognitive impairment or dementia

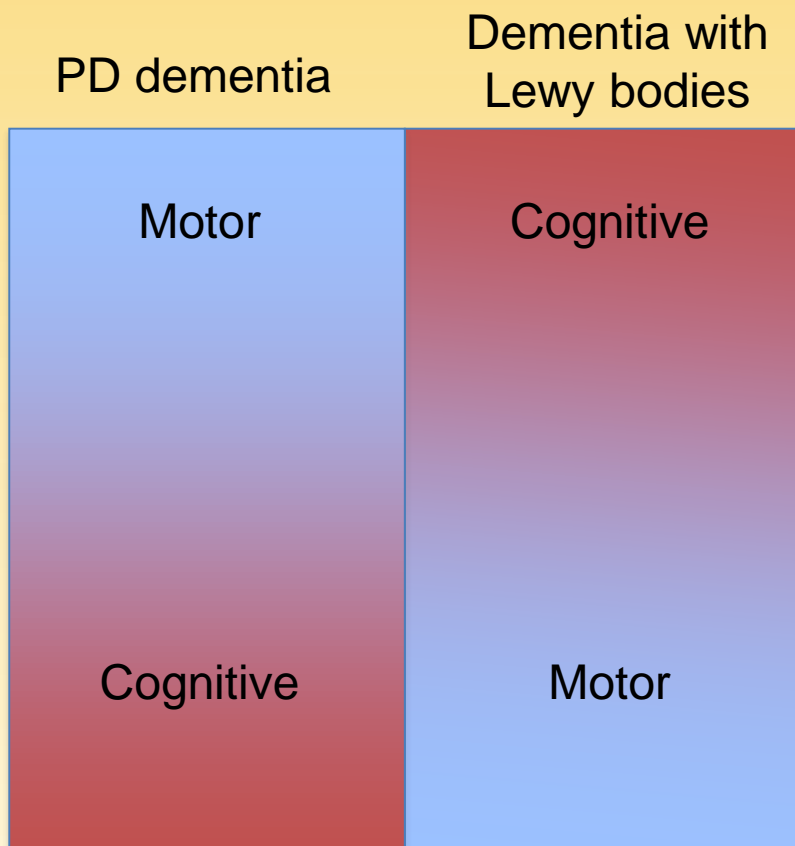
Dementia In PD: What Is It?

- Core features
 - Diagnosis of PD
 - Dementia syndrome with insidious onset and slow progression in context of PD
 - Impairment in > 1 cognitive domain
 - Decline from premorbid level
 - Deficits severe enough to impair daily life (independent of motor symptoms)
- Associated clinical features
 - Cognitive: attention, executive function, visuospatial, memory, language
 - Behavioral: apathy, mood, psychosis, excessive daytime sleepiness

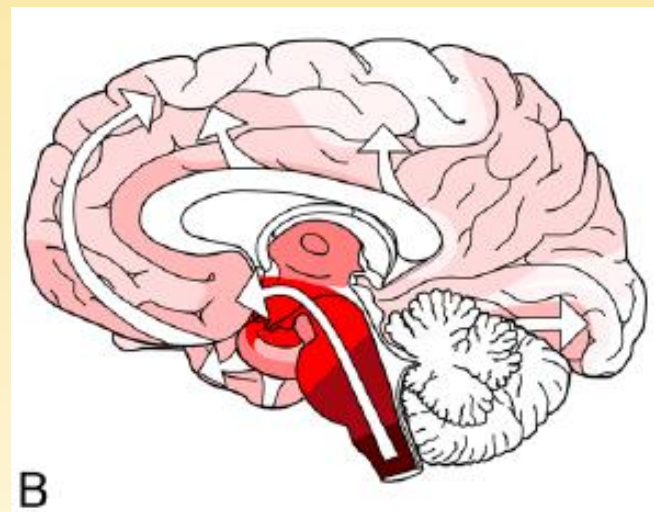
PD Dementia Vs. Other Dementias

Feature	Parkinson's Disease dementia (PDD)	Alzheimer's dementia (AD)	Dementia with Lewy bodies (DLB)
Dementia onset	Usually later, > 1 year after motor features	Early	Earlier, < 1 year after motor symptoms or prior
Prominent cognitive symptoms	Attention, executive function, visuospatial function	Memory, language	Attention, executive function, visuospatial function
Parkinsonism	Yes	Rarely	Maybe
Visual hallucinations	Possibly, common	Rarely	Common
Fluctuation of cognitive impairment	Possibly, common	Rarely	Common

PD Dementia Vs. Dementia with Lewy Bodies



Two sides of the same coin?



PD Dementia: Why Does it Occur?

- Lewy bodies form in brain regions involved in cognition
- Decrease or loss of key neurotransmitters involved in cognition: acetylcholine, dopamine, norepinephrine, serotonin
- Also co-existing Alzheimer's disease changes in the brain (other protein aggregates, i.e., amyloid-beta and tau)
- Or other co-existing changes in the brain affecting vascular system (blood vessels)

Can We Detect Markers of PD Dementia?

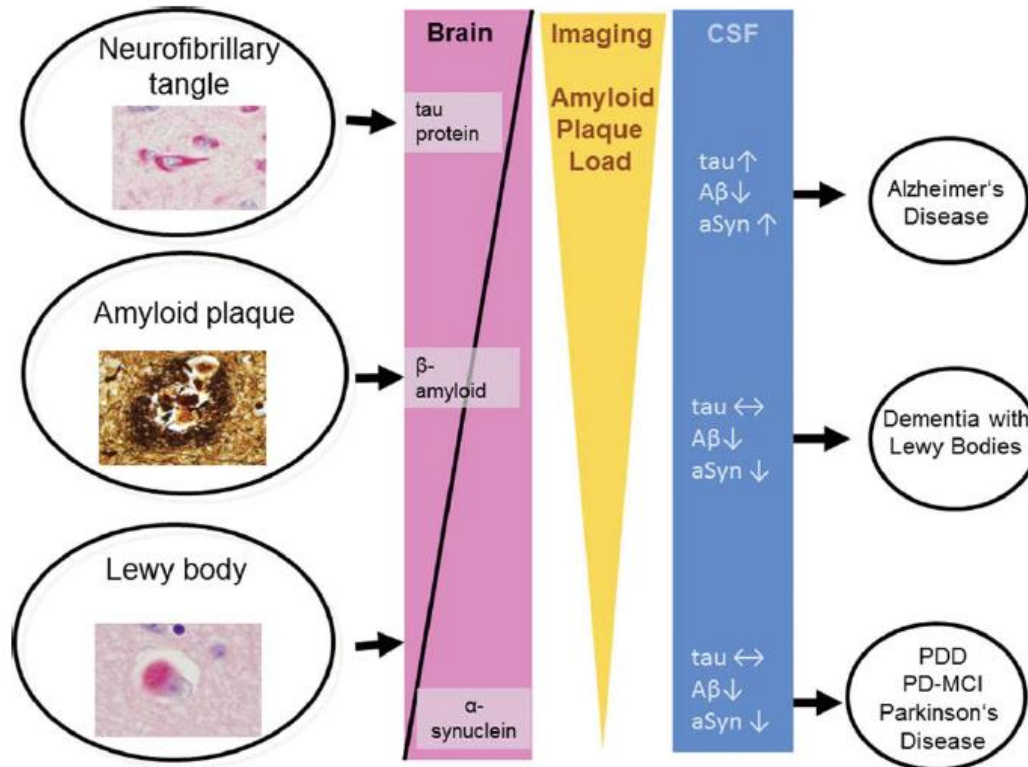


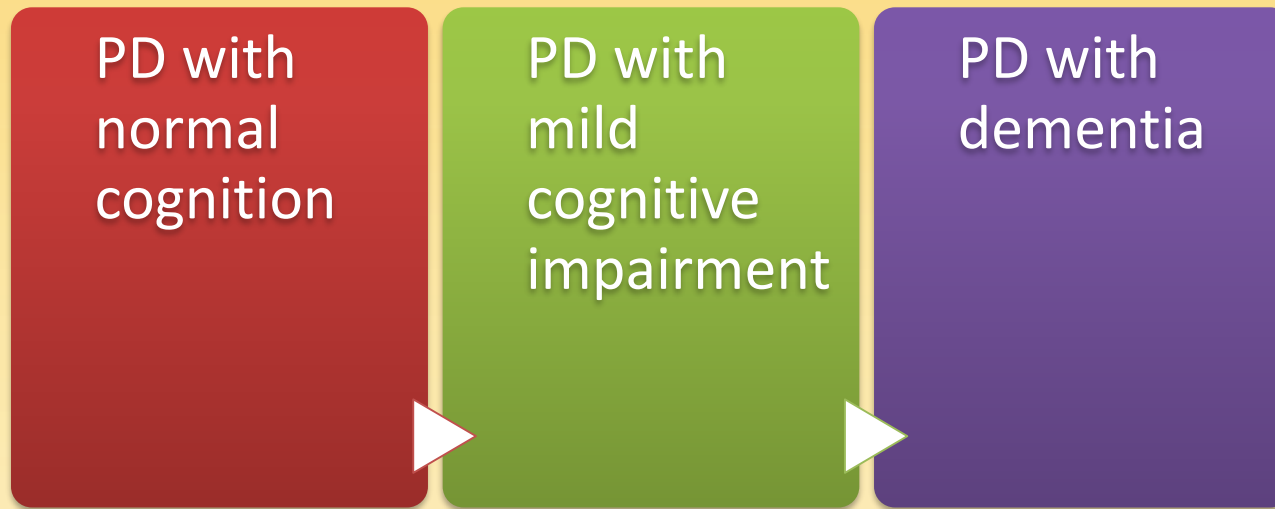
FIG. 2. Schematic summary (modified from Weinrich et al.¹³⁶) of the most frequent and known pathomorphologic characteristics of Alzheimer's disease, dementia with Lewy bodies, and Parkinson's disease with dementia (PDD) shown with the respective patterns in cerebrospinal fluid (CSF) and with β-amyloid (Aβ) nuclear imaging. Shown are neurofibrillary tangle (top left) (immunohistochemistry reaction with the antibody AT-8 against hyperphosphorylated tau protein), amyloid plaque (middle left) (Bielchowsky staining), and Lewy body (bottom left) (immunohistochemistry reaction with antibody LB-509 against α-synuclein [αSyn]). PD-MCI indicates Parkinson's disease with mild cognitive impairment.



Possible Risk Factors for PD Dementia

- Older age
- Increased motor severity
- Baseline cognitive impairment or PD-MCI
- Older age at PD onset
- Longer PD duration
- Akinetic-rigid motor phenotype
- Hallucinations
- Mood or sleep disturbances
- Certain types of cognitive deficits
- Sometimes genetics

PD Dementia: Identifying Early Signs and Markers



Potential modifiers that may contribute to progression, stability, or reversion across cognitive categories

- Demographics
- Biological – genes, environment, neuropathology
- Clinical features

Treatment and Management Strategies for Dementia in PD

Management of Cognitive Problems in PD

Exclude other causes, especially if an acute change



Always review one's medication list



Consider prescribing medications for cognition and/or participating in research studies



Medications Studied in PD Dementia

- Cholinesterase inhibitors
 - Rivastigmine (Exelon[®])*
 - Donepezil (Aricept[®])
 - Galantamine (Razadyne[®])
- NMDA antagonists
 - Memantine (Namenda[®])

** Rivastigmine is the only currently FDA-approved medication for PD dementia*

Medications/Interventions Under Investigation

- SYN-120 (SYNAPSE trial)
 - Phase II study underway and recruiting
 - Multiple sites in US
 - Serotonergic medication
- Nilotinib
 - Phase I, pilot study
 - Leukemia drug
- Deep brain stimulation and neuromodulation techniques
- Lifestyle modifications
 - Physical exercise, cognitive training

PD Dementia: Where Do We Need to Go in the Field?

- Improve our understanding of why people with PD develop cognitive symptoms and dementia
- Identify people with PD at risk for cognitive decline
- Develop drugs or interventions to slow down or stop the cognitive symptoms – and also other PD symptoms
- Intervene early, before dementia
- Improve cognitive symptoms and dementia when present

Practical Tips for People with PD and Care Partners When Dealing with Dementia in PD

Practical Tips: Communication

- Show rather than tell
- Don't show and tell at the same time
- Get the person's attention before asking a question or giving information and maintain their attention while communicating
- Eye contact while speaking to each other
- Use simple language and be specific
- Give choices, rather than open ended questions
- Speak clearly and slowly
- **Be patient!**

Practical Tips: Appointments

- Helpful to have another “pair of ears – and eyes” at the appointment
- Keep appointment reminders – cards, on the calendar
- Prep for the appointment - discuss topics for the doctor ahead of time, write down
- Keep a folder of important medical information
- Ask questions to see if understood

Practical Tips: Medications and Home

- Pill boxes, alarms, etc.
- Don't try to “multi-task”
- Simplify the environment, “declutter”
- Keep track of the calendar and current events
- Make lists
- Maintain a regular routine
- Socialize - recruit friends and family
- Safety issues
- Planning
- Find resources for people with PD and care partners

Thank You!



“Art is my therapy for Parkinson’s. My photography takes me on adventures to places where I can observe and experience nature closely. It gives me both a way to express myself without words and the joy that comes from sharing my view of the world with others.”

Raindrop, Jeanmarie Shelton
PDF Creativity and Parkinson’s Project

Questions and Discussion



Resources from PDF

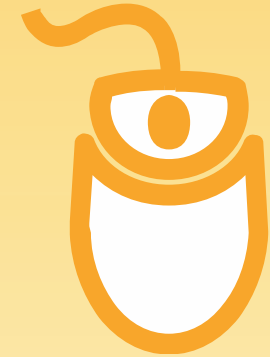
Fact Sheets

- Cognition and Parkinson's



Online Seminars

- Cognitive Issues: Advice for Parkinson's Care Partners
- Demystifying Hallucinations, Night Terrors and Dementia



Parkinson's HelpLine

- Available at **(800) 457-6676** or info@pdf.org
- Monday through Friday
- 9:00 AM – 5:00 PM ET

Upcoming *PD Expert Briefings*

What's in the PD Pipeline? Gene and Cell Therapies

Tuesday, April 5, 1:00 PM - 2:00 PM ET

Roger Barker, M.B.B.S, M.R.C.P, Ph.D., Professor of Clinical Neuroscience and Honorary Consultant, Neurology, University of Cambridge and Addenbrooke's Hospital

Apathy or Depression: Which One Is It?

Tuesday, June 14, 1:00 PM - 2:00 PM ET

Dawn Bowers, Ph.D., Professor of Neuropsychology, University of Florida, Director, Cognitive Neuroscience Laboratory at McKnight Brain Institute

Please complete our SURVEY

Your responses help us to improve
the work that we do.

Thank you.