



Lewy Who? An LBD Overview

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Normal aging

- **What's normal with age?**
 - Walking into a room and forgetting what you went in there for, but remembering a few moments later
 - Losing things from time to time, but back-tracking and finding them
 - Forgetting about an appointment but remembering later
 - Making a bad decision once in a while
 - Other mild forgetfulness that doesn't significantly affect day-to-day life

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What is dementia?

- **What is dementia?**
 - Dementia is not a normal part of aging
 - Dementia describes a group of symptoms affecting thinking, language and social abilities severely enough to interfere with daily functioning
 - Also called major neurocognitive disorder

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Dementia umbrella



Irreversible
Alzheimer's disease
Vascular dementia
Lewy body dementia
Frontotemporal degeneration
And more...

Reversible
Infection
Depression
Tumor
Metabolic disorders
Medications
Vitamin deficiencies
Alcohol
And more...



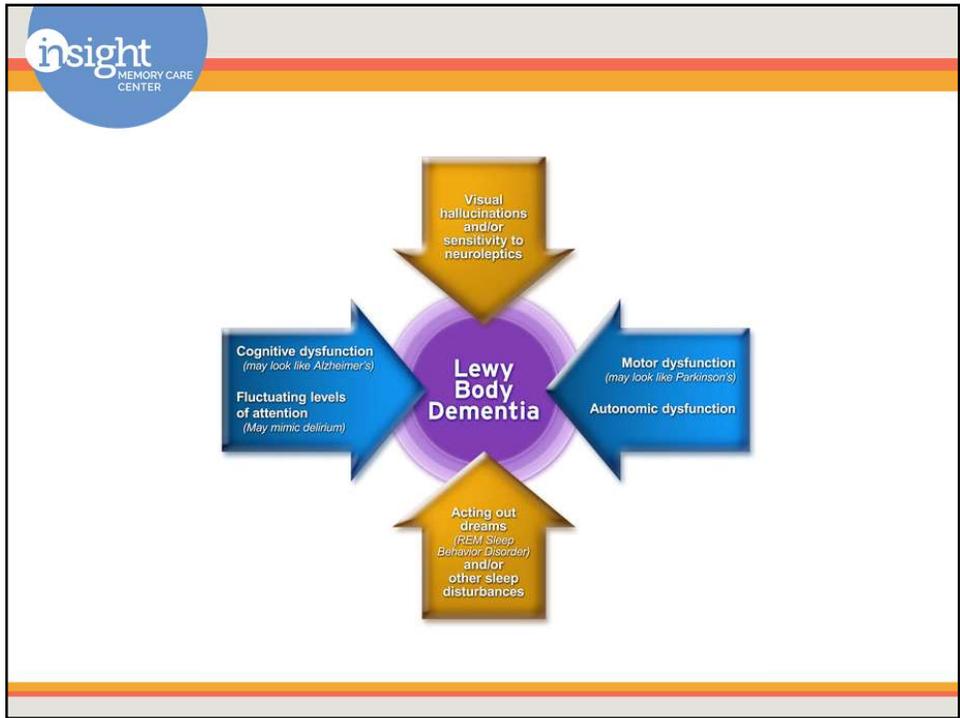
What is Lewy body dementia?

- **Lewy Body Dementia (LBD)**
 - Umbrella term for **dementia with Lewy bodies (DLB)** and **Parkinson's disease dementia (PDD)**
 - Protein discovered by Dr. Friedrich Lewy in 1912
 - Hallmarks described in 1996
 - Added to International Classification of Diseases in 2005



Lewy bodies

- Lewy bodies are abnormal clumps of a protein that accumulates in neurons, typically found in the brain cortex.
- Alpha synuclein occurs normally in the brain, but we do not yet understand what causes it to build up in large amounts.
- As more and more proteins clump in the nerve cells, the cells lose their ability to function and eventually die.



DLB

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- **Dementia with Lewy Bodies (DLB)**
 - First signs of DLB are often deficits in attention and executive functioning. Similar to Alzheimer’s in that these individuals often have initial or early symptoms of memory loss.
 - Other symptoms include:
 - fluctuating cognition
 - recurrent complex visual hallucinations
 - sleep disturbances
 - muscle rigidity
 - spontaneous features of parkinsonism

Nerve cells in cerebral cortex

Cortical Lewy body (Haematoxylin and eosin stain)



PDD

- **Parkinson's disease dementia (PDD)**
 - Begins with the movement disorder (slowness, rigidity, tremor and changes in gait)
 - As brain changes caused by Parkinson's gradually spread, they often begin to affect mental functions
 - 50 to 80 percent of those with the Parkinson's may experience dementia



PDD

- **Parkinson's disease dementia**
 - The Lewy bodies form in an area deep in the brain called the substantia nigra. The aggregates are thought to cause degeneration of the nerve cells that produce dopamine.
 - Dementia is related to the accumulation of Lewy bodies in the cortex or the accumulation of beta-amyloid clumps and tau tangles
 - Cognitive changes are at least a year after PD diagnosis



- Regardless of the initial symptom, over time both presentations of LBD will develop very similar cognitive, physical, sleep and behavioral features, all caused by the presence of Lewy bodies throughout the brain.
- The progression varies from person to person.



PD and dementia risk

- Certain factors at the time of Parkinson's diagnosis may increase future dementia risk, including older age, greater severity of motor symptoms and having MCI.
- Additional risk factors may include:
 - Hallucinations in a person who doesn't yet have other dementia symptoms
 - Excessive daytime sleepiness
 - Parkinson's symptom pattern known as postural instability and gait disturbance (PIGD), which includes "freezing" in mid-step, difficulty initiating movement, shuffling, problems with balance and falling



Symptoms of PDD

- Commonly reported symptoms of Parkinson's disease dementia include:
 - Changes in memory, concentration and judgment
 - Trouble interpreting visual information
 - Muffled speech
 - Visual hallucinations
 - Delusions, especially paranoid ideas
 - Depression
 - Irritability and anxiety
 - Sleep disturbances, including excessive daytime drowsiness and rapid eye movement (REM) sleep disorder



Medication treatments

- **Cognitive changes**
 - Cholinesterase inhibitors are the current mainstay for treating cognitive symptoms in early-mid Alzheimer's and may help PDD symptoms, including visual hallucinations, sleep disturbances and changes in thinking and behavior.
- **Behavioral symptoms**
 - Antipsychotic drugs are sometimes prescribed but should be used with extreme caution because they may cause serious side effects in up to 50 percent of those with LBD.



Medication treatments

- **Movement symptoms**
 - Carbidopa-Levodopa is the chief treatment but can sometimes aggravate hallucinations and confusion in those with LBD
- **Depression**
 - SSRI's (antidepressants)
- **REM sleep disorder**
 - Melatonin or Clonazepam



Management

- **Identify a Team Approach**
 - Physician and Neurologist familiar with LBD
 - Speech Therapy
 - Occupational Therapy
 - Physical Therapy
 - Social Work (for family caregivers)



Resources

- Insight Memory Care Center
 - insightmcc.org or (703) 204-4664
- National Institutes of Health
 - nia.nih.gov/alzheimers or (800) 438-4380
- Lewy Body Dementia Association
 - lbda.org
- Local Area Agency on Aging
 - N4a.org



Questions?

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