

Dementia with Lewy bodies (DLB)

A topic in the Alzheimer's Association® series on understanding dementia.

About dementia

Dementia is a condition in which a person has significant difficulty with daily functioning because of problems with thinking and memory. Dementia is not a single disease; it's an overall term — like heart disease — that covers a wide range of specific medical conditions, including Alzheimer's disease. Disorders grouped under the general term “dementia” are caused by abnormal brain changes. These changes trigger a decline in thinking skills, also known as cognitive abilities, severe enough to impair daily life and independent function. They also affect behavior, feelings and relationships.

Brain changes that cause dementia may be temporary, but they are most often permanent and worsen, leading to increasing disability and a shortened life span. Survival can vary widely, depending on such factors as the cause of the dementia, age at diagnosis and coexisting health conditions.

Dementia with Lewy bodies (DLB)

Dementia with Lewy bodies is a type of dementia that leads to a progressive decline in thinking, reasoning and independent function because of abnormal microscopic deposits that gradually destroy certain brain cells. These deposits — named after Frederick H. Lewy, M.D., the neurologist who discovered them while working in Dr. Alois Alzheimer's laboratory during the early 1900s — consist primarily of alpha-synuclein, a protein that's found widely in the brain but whose normal function isn't yet known.

Lewy bodies are also found in several other brain disorders, including Alzheimer's disease and Parkinson's disease dementia. Many people with Parkinson's develop problems with thinking and reasoning, and many people with DLB experience movement symptoms, such as a hunched posture, rigid muscles, a shuffling walk and trouble initiating movement.

This overlap in symptoms and other evidence suggest that DLB, Parkinson's disease and Parkinson's disease dementia may be linked to the same underlying abnormalities in how the brain processes alpha-synuclein. Many people with both DLB and Parkinson's disease also have plaques and tangles — hallmark brain changes linked to Alzheimer's disease.

Prevalence

Most experts estimate that DLB is the third-most-common cause of dementia after Alzheimer's disease and vascular dementia, accounting for 10 to 25 percent of cases.

Symptoms

Hallmark DLB symptoms include changes in thinking and reasoning; confusion and alertness that varies significantly from one time of day to another or from one day to the next; Parkinson's symptoms, such as a tremors, hunched posture, balance problems and rigid muscles; visual hallucinations; delusions; trouble interpreting visual information; a problem with acting out vivid dreams, known as rapid eye movement (REM) sleep disorder; malfunctions of the autonomic nervous system; behavior problems; and memory loss that may be less prominent than in Alzheimer's.

Diagnosis

There is no single test — or any combination of tests — that can conclusively diagnose DLB in a living individual. Today, DLB is a clinical diagnosis, representing a doctor's best professional judgment about the reason for a person's symptoms.

Many experts now believe that DLB and Parkinson's disease dementia are two different expressions of the same underlying problems with the brain processing of alpha-synuclein. But most experts recommend continuing to diagnose DLB and Parkinson's dementia as separate disorders.

Guidelines for diagnosing DLB and Parkinson's disease dementia are:

- **DLB:** Dementia symptoms consistent with DLB develop first; both dementia symptoms and movement symptoms are present at the time of diagnosis; or dementia symptoms appear within one year after movement symptoms.
- **Parkinson's disease dementia:** A person is originally diagnosed with Parkinson's disease based on movement symptoms and dementia symptoms don't appear until a year later or more.

Since Lewy bodies tend to coexist with Alzheimer's brain changes, it may sometimes be difficult to distinguish DLB from Alzheimer's disease, especially in the early stages. As in other types of dementia, biomarkers tests — tests that measure changes in the body associated with certain diseases and illnesses — are needed to help doctors more definitively diagnose an individual with DLB.

Causes and risk factors

Researchers have not yet identified any specific causes of DLB. Most people diagnosed with DLB have no family history of the disorder, and no genes linked to DLB have been conclusively identified.

Outcomes

Like other types of dementia that destroy brain cells, DLB symptoms get worse and shorten life span.

Treatment

There are no treatments to slow or stop the brain cell damage caused by DLB. Current strategies focus on improving symptoms. If a treatment plan includes medications, it's important to work closely with a physician to identify the drugs and the most effective doses.

- **Cholinesterase inhibitors** — drugs that are the current mainstay for treating cognitive changes in Alzheimer's — may also help DLB symptoms.
- **Carbidopa-levodopa** — may be prescribed to treat Parkinson's movement symptoms. However, it can sometimes aggravate hallucinations and confusion in those with Parkinson's dementia or DLB.
- **Antipsychotics** — a drug category sometimes prescribed for behavioral symptoms that can occur in Alzheimer's — should be used with extreme caution because they may cause serious side effects in as many as 50 percent of those with DLB. Side effects may include sudden changes in consciousness, impaired swallowing, acute confusion, episodes of delusions or hallucinations, or appearance or worsening of Parkinson's symptoms. In some cases, antipsychotic drugs may result in a potentially fatal condition called neuroleptic malignant syndrome, which causes severe fever and muscle rigidity and can lead to kidney failure.
- **Selective serotonin reuptake inhibitors (SSRIs)** — used to treat depression, which is common in both DLB and Parkinson's disease dementia.
- **Clonazepam** — may be used to treat REM disorder.

Additional resources

Lewy Body Dementia Association

LBDA.org

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