

# Progression to Dementia in Mild Cognitive Impairment With Lewy Bodies or Alzheimer Disease

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## Study Question

Do patients with mild cognitive impairment (MCI) with Lewy bodies (MCI-LB) and MCI due to Alzheimer disease (MCI-AD) differ in terms of their rate of progression to dementia?

## What Is Known and What This Paper Adds

Patients with MCI-LB are more likely to experience progressive cognitive decline than their counterparts with MCI-AD. This investigation's results show that patients with MCI-LB are also more likely to transition from MCI to dementia.

## Methods

For these longitudinal analyses, the investigators analyzed data from 111 individuals with MCI who participated in either of 2 prospective cohort studies, recruitment for which occurred in northeastern England. This sample included 33 patients with MCI-AD (67% female; mean baseline age, 77.5 ± 7.63 years), 17 patients with possible MCI-LB (41% female; mean baseline age, 74.9 ± 7.58 years), and 61 patients with probable MCI-LB (21% female; mean baseline age, 75.0 ± 7.00 years). The participants underwent annual follow-up cognitive assessments (mean follow-up duration, 2.2 years; range, 1–6.7 years) with detailed clinical evaluations that assessed the presence or absence of core clinical features and proposed biomarkers of dementia with Lewy bodies, and neuropsychological test batteries. The National Institute on Aging–Alzheimer's Association criteria were used to diagnose dementia. Multistate modelling was used to compare the MCI-AD and MCI-LB groups in terms of their risks of progressing to dementia.

**Table** Risk Factors for Progression to Dementia

Risk factor	Hazard ratio (95% CI)
<b>LB features</b>	1.33 (1.11–1.60)
<b>Complex visual hallucinations</b>	1.98 (0.92–4.29)
<b>Cognitive fluctuations</b>	3.99 (2.03–7.84)

Associations between selected variables and the risk of progression from MCI to dementia.

## Results and Study Limitations

Overall, 38 participants (34%) progressed to dementia, including 10 participants from the MCI-AD group, 3 participants from the possible MCI-LB group, and 25 participants from the probable MCI-LB group. The presence of LB features was a predictor of progression to dementia. The risk of progression to dementia was especially high for participants who experienced complex visual hallucinations or cognitive fluctuations. Complex visual hallucinations were also predictive of mortality. The present study's limitations include a lack of clear biomarkers for MCI-AD and the unavailability of [<sup>123</sup>I]-metaiodobenzylguanidine cardiac scintigraphy data for most participants.

## Study Funding and Competing Interests

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