Detect · Diagnose

Lilly ConnectAD™

Welcome to ConnectAD™, a clinical case series created by the Eli Lilly and Company Neuroscience medical education team. This series is intended to connect healthcare professionals to resources that help them detect, diagnose, and manage Alzheimer's disease.

Disclaimer

The content for this clinical case was developed in collaboration between a group of global clinicians who care for patients with Alzheimer's disease and Eli Lilly and Company.

A variety of cognitive and diagnostic tests can reasonably be used in the detection and diagnosis of Alzheimer's disease. Inclusion of specific cognitive and/or diagnostic tests in this case reflects the diversity of clinical preferences, and the use of particular diagnostic tools does not imply endorsement or recommendation by Lilly.

Learning Objectives

Through completing this course, you will have a deeper understanding of:

1. The clinical presentation of Alzheimer's disease

2. How to integrate clinical and biomarker assessments to make an accurate diagnosis of Alzheimer's disease in the earliest stages

Lilly ConnectAD™

Connect *with Beverly*

Detect · Diagnose

The clinical case presented here is entirely fictional and is not based on any real patient.

Our Patient Beverly

- 79 years old
- Female
- Black
- Widowed, 1 daughter
- College degree
- Schoolteacher (retired)

Clinical Information and History

Beverly came to her appointment with her adult daughter.

Beverly denies having issues, but her daughter reports increasing difficulties with memory, particularly around financial matters.

Clinical history

- Diabetes
- Hypertension
- Urinary incontinence
- High cholesterol

General health

- Heart rate: 79 bpm
- Blood pressure: 140/90 mmHg

Current medication

- Statin
- Angiotensin receptor blocker (ARB)
- Calcium channel blocker
- Sulfonylurea

bpm=Beats Per Minute.

Initial Clinical Assessment

General neurological exam: Normal

Mental status

- Alert and responsive
- Beverly reports that she is capable of all activities of daily living and still drives
- Daughter reports Beverly:
  - Has been late with bills on a few occasions
  - Can no longer manage her finances
  - May not be taking her medications as prescribed
  - Was recently hospitalized with a UTI, and there were concerns regarding her hygiene habits

Cognition

- MoCA: 21/30 (normal ≥26)
- AD8 Questionnaire (daughter): 4 (normal 0-1; cognitive impairment likely >2)

AD=Alzheimer's Disease; MoCA=Montreal Cognitive Assessment; UTI=Urinary Tract Infection.

Additional Findings

Blood work:

- Normal
  - Complete blood count (CBC)
  - Electrolytes
  - Creatinine
  - Thyroid stimulating hormone (TSH)
  - Vitamin B12
- Mildly Elevated
  - Glucose

Brain MRI:

- Mild cortical atrophy
- Mild white matter hyperintensities
- No gross abnormalities

Amyloid PET:

- The scan is positive and demonstrates moderate-to-frequent Aβ deposition

Aβ=Amyloid Beta; MRI=Magnetic Resonance Imaging; PET=Positron Emission Tomography.

Given the Patient Information Presented, What is the Diagnosis?

1. Normal aging
2. Vascular dementia
3. MCI due to AD
4. Mild dementia due to AD
5. Other

Beverly

AD=Alzheimer's Disease; MCI=Mild Cognitive Impairment.

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Beverly

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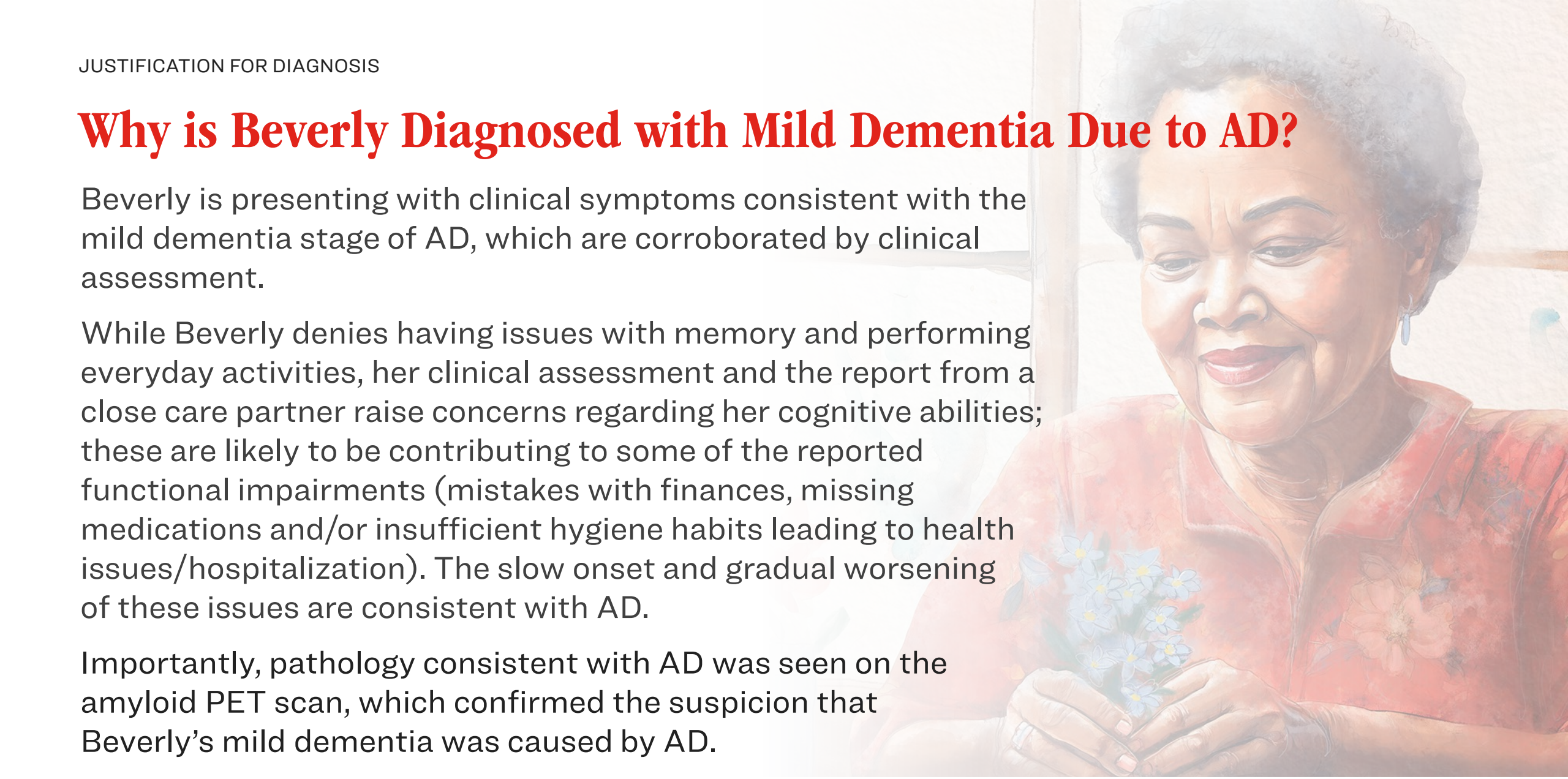
JUSTIFICATION FOR DIAGNOSIS

Why is Beverly Diagnosed with Mild Dementia Due to AD?

Beverly is presenting with clinical symptoms consistent with the mild dementia stage of AD, which are corroborated by clinical assessment.

While Beverly denies having issues with memory and performing everyday activities, her clinical assessment and the report from a close care partner raise concerns regarding her cognitive abilities; these are likely to be contributing to some of the reported functional impairments (mistakes with finances, missing medications and/or insufficient hygiene habits leading to health issues/hospitalization). The slow onset and gradual worsening of these issues are consistent with AD.

Importantly, pathology consistent with AD was seen on the amyloid PET scan, which confirmed the suspicion that Beverly's mild dementia was caused by AD.



AD=Alzheimer's Disease; PET=Positron Emission Tomography.

Key Learnings in Beverly's Case (1 of 2)

Beverly displays anosognosia, a lack of recognition or denial of problems,[1] and her daughter's contribution to the clinical history and symptoms was very important for understanding Beverly's level of functional independence.

Anosognosia is very common in patients with early symptomatic AD[2]

1. Anosognosia can be identified by comparing the ratings given by the patients on their own level of performance on tasks of daily living with answers provided by their care partners.[1]
2. It is important for care partners to attend clinical appointments to get the full picture of a patient′s capabilities.
3. It should be considered however, that the care partner may be influenced by several factors, such as emotional and cognitive state, and the amount of time they spend with the patient.[1]

AD=Alzheimer's Disease.

1. Starkstein SE, et al. *J Neurol Neurosurg Psychiatry*. 2006;77(6):719-725. 2. Tondelli M, et al. *Front Psychiatry*. 2021;12:658934.

Key Learnings in Beverly's Case (2 of 2)

Benefits and limitations of using amyloid PET imaging to detect a pathologic biomarker of AD:

Amyloid PET is a diagnostic imaging procedure in which a radioactive agent binds to the Aβ in the brain, allowing clinicians to estimate Aβ neuritic plaque density.[1-3]

Advantages include:

- Aβ plaques are one of the earliest known neuropathological hallmarks of AD[4]
- Amyloid PET imaging demonstrates a positive or negative finding for Aβ plaques[1-3]

Limitations include[4]:

- Weak correlation between Aβ deposition and AD clinical severity
- Aβ accumulation stabilizes in late-stage AD

Aβ=Amyloid Beta; AD=Alzheimer's Disease; PET=Positron Emission Tomography.

1. https://www.accessdata.fda.gov/drugsatfda_docs/label/2025/202008s046lbl.pdf (Accessed September 18, 2025).
2. https://www.accessdata.fda.gov/drugsatfda_docs/label/2025/203137s024lbl.pdf (Accessed September 18, 2025).
3. https://www.accessdata.fda.gov/drugsatfda_docs/label/2025/204677s024s034lbl.pdf (Accessed September 18, 2025). 4. van Oostveen WM, de Lange ECM. *Int J Mol Sci.* 2021;22(4):2110.

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Thank you for Connecting *with Beverly*

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