

# Alzheimer Disease

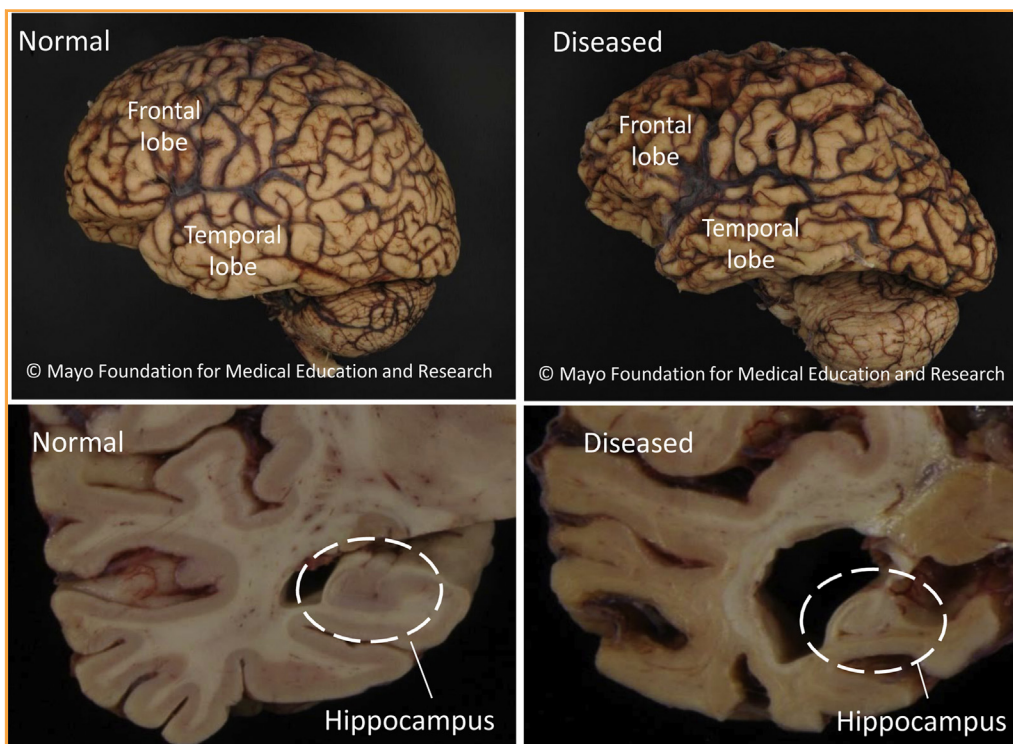


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The diseased brain is from a patient who had had cognitive decline for 5 years and died of aspiration pneumonia.

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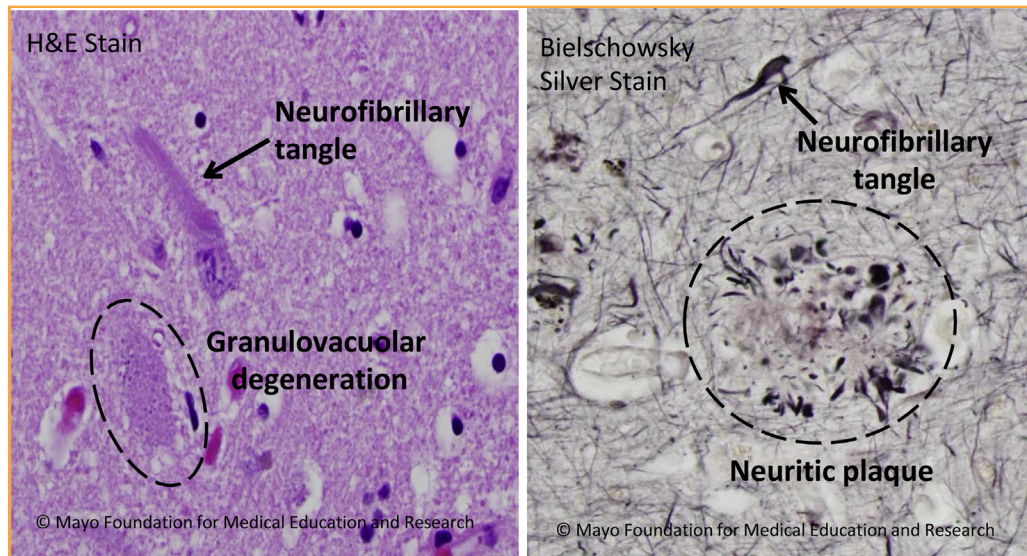
What is the most likely diagnosis and neuropathologic finding?



- a. Pick disease; tau protein deposits in neurons
- b. Lewy body dementia;  $\alpha$ -synuclein deposits in neurons
- c. Hepatic encephalopathy; Alzheimer type II gliosis
- d. Alzheimer disease; neurofibrillary tangles and neuritic plaques

(see page e118 for answer)

Answer: d. Alzheimer disease; neurofibrillary tangles and neuritic plaques



Alzheimer disease is the most common neurodegenerative disease, and unlike the other diseases listed, classically exhibits global cerebral atrophy.<sup>1</sup> The atrophy is typically greatest in the medial temporal lobe/hippocampus. Alzheimer disease is characterized by tau and amyloid protein deposition. Tau protein forms neurofibrillary tangles within affected neurons and also forms neuritic plaques in conjunction with  $\beta$ -amyloid protein.<sup>2</sup>  $\beta$ -Amyloid protein may also deposit as diffuse plaques within the cortex or as amyloid angiopathy within leptomeningeal and cortical vessels.

#### REFERENCES

1. Knopman DS, Petersen RC. Mild cognitive impairment and mild dementia: a clinical perspective. *Mayo Clin Proc.* 2014;89(10):1452-1459.
2. Josephs KA, Dickson DW, Murray ME, et al. Quantitative neurofibrillary tangle density and brain volumetric MRI analyses in Alzheimer's disease presenting as logopenic progressive aphasia. *Brain Lang.* 2013;127(2):127-134.