

Alzheimer's Disease: Review Questions

Bertrand C. Liang MD

QUESTIONS

Choose the single best answer for each question.

- Which of the following areas is most involved with cortical loss in Alzheimer's disease?**
 - Temporal lobe
 - Frontal lobe
 - Hippocampus
 - Temporal lobe, frontal lobe, and hippocampus
 - Temporal lobe and hippocampus
- In which of the following regions are neurofibrillary tangles found in patients with Alzheimer's disease?**
 - CA1 region of the hippocampus and subiculum
 - Entorhinal cortex
 - Association areas of the cortex
 - Amygdala
 - All of the above
- The diagnosis of Alzheimer's disease requires which of the following clinical manifestations?**
 - Progressive aphasia
 - Progressive rigidity
 - Hallucinations
 - Dementia
 - Agitation and anxiety
- What criterion is required for the diagnosis of Alzheimer's disease?**
 - Disturbances in consciousness
 - Static loss of memory function
 - Impairment of two areas of cognition
 - Changes in personality
 - Myoclonus
- Which of the following studies should be included in the laboratory work-up for Alzheimer's disease?**
 - Imaging studies of the brain
 - Assessment of thyroid hormone levels
 - Liver function tests
 - Imaging studies of the brain and assessment of thyroid hormone levels
 - Imaging studies of the brain, assessment of thyroid hormone levels, and liver function tests
- Magnetic resonance imaging of the brain in patients with Alzheimer's disease reveals which of the following findings?**
 - Loss of cortical markings
 - Enlarged ventricles
 - Enhancement of the meninges
 - Subcortical white matter hyperintensity
 - None of the above
- Patients with Alzheimer's disease should receive which of the following pharmacologic interventions?**
 - Muscarinic agonist
 - Neuroleptic drug
 - Antipsychotic drug
 - Nitrosourea
 - Drugs for symptom management

Dr. Liang is Adjunct Associate Professor of Medicine and Neurology, University of Vermont, College of Medicine, Burlington, VT, and a member of the Hospital Physician Editorial Board.

EXPLANATION OF ANSWERS

1. **(D) Temporal lobe, frontal lobe, and hippocampus.**

The temporal lobe, frontal lobe, and hippocampus are the areas most involved with cortical loss in Alzheimer's disease. Major association areas are also involved with notable cortical atrophy. Relatively spared areas include the motor and sensory cortex as well as the visual cortex.

2. **(E) All of the above.** Although neurofibrillary tangles are thought to first appear in the CA1 region of the hippocampus and subiculum, these tangles are also found in the entorhinal cortex, the association areas of the cortex, and the amygdala.

3. **(D) Dementia.** Alzheimer's disease can only be diagnosed definitively with biopsy. However, clinical characteristics can identify most patients with the disease. Although progressive aphasia, progressive rigidity, hallucinations, agitation, and anxiety can occur in Alzheimer's disease, the diagnosis requires the presence of dementia.

4. **(C) Impairment of two areas of cognition.** The diagnosis of Alzheimer's disease requires impairment of two areas of cognition, no disturbance in consciousness, progressive loss of memory function, and no systemic disease or disorder to account for dementia. Although changes in personality and myoclonus may

occur in patients with Alzheimer's disease, these changes are not required for the diagnosis.

5. **(E) Imaging studies of the brain, assessment of thyroid hormone levels, and liver function tests.** A laboratory work-up for Alzheimer's disease should include imaging studies of the brain, assessment of thyroid hormone levels, and liver function tests, as well as assessment of vitamin B₁₂ levels, urinalysis, VDRL/fluorescent treponemal antibody absorbed, cerebrospinal fluid analysis, and electroencephalography.

6. **(E) None of the above.** Magnetic resonance imaging best shows atrophy of the cortex and hippocampus in Alzheimer's disease. The loss of cortical markings, the presence of enlarged ventricles, and enhancement of the meninges, as well as the presence of subcortical white matter hyperintensity, are not definitively associated with Alzheimer's disease.

7. **(E) Drugs for symptom management.** No cure is currently available for Alzheimer's disease, and management is symptomatic. Because patients may be very sensitive to drugs, titrating from lower doses is imperative to avoid overdosing.

Adapted from Liang BC: Alzheimer's disease. Hospital Physician Neurology Board Review Manual 1998:3(1).

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