A 63-year-old man is brought to the physician by his daughter because she is concerned about his memory loss over the past year. Yesterday he could not remember his 18-month-old granddaughter's name. Although he denies that there is any problem, she says he has been forgetful and becomes easily confused. There is no history of alcohol abuse. His temperature is 37°C (98.6°F), pulse is 77/min, respirations are 12/min, and blood pressure is 118/84 mm Hg. On mental status examination, his mood is normal. He is oriented to person and place but initially gives the wrong month, which he is able to correct. He recalls memories from his youth in great detail but only recalls one of three words after 5 minutes. He has difficulty recalling the names of common objects and does not remember the name of the current US president. Physical examination, laboratory studies, and thyroid function tests show no abnormalities.

(A) Alcohol-induced amnestic episode (blackout)  (I) Masked depression  
(B) Alcohol withdrawal  (J) Medication toxicity  
(C) Apathetic hyperthyroidism  (K) Normal age-associated memory decline  
(D) Bipolar disorder, depressed  (L) Normal pressure hydrocephalus  
(E) Delirium because of medical condition  (M) Parkinson disease  
(F) Dementia, alcohol-related  (N) Pick disease  
(G) Dementia, Alzheimer type  (O) Pseudodementia  
(H) Generalized anxiety disorder  (P) Residual schizophrenia  
(Q) Multi-infarct (vascular) dementia
### Learning Objectives

**The listener should be able to:**

1. Differentiate between the presentations of various types of dementia.
2. Understand the differences between delirium, dementia, and age associated cognitive impairment in the elderly.
3. Be familiar with several diagnostic tools/algorithms that will help a physician assess the mental status of an elderly patient.
4. Describe the course of Alzheimer’s type dementia.
5. Understand basic principles of medical therapy for Alzheimer’s type dementia.

### Key Teaching Points

- **Delirium** is a very specific diagnosis for which criteria exist in the DSMIV-TR. A patient with delirium has an acute onset of the problem (mental status change develops in hours to days), demonstrates a fluctuating course of the disease, must demonstrate inattention (attention may be better evaluated by reciting months of the year backwards than serial 7’s as the latter is subject to the patient’s education), and may show disorganization of thought, altered level of conscious (hypervigilant vs. stuporous/drowsy), and >90% of patients have hallucinations.

- **Dementia** is characterized by impaired memory (long term and short term) and one or more of the following symptoms: impaired judgment, disturbed “higher” cortical functions, impaired abstraction, or personality changes. Late stage dementia may also present with neuropsychiatric symptoms including anxiety, depression, psychosis, or behavior disturbance. Dementia affects 1.4% of persons aged 72-74, 4.4% of those 75-84, and 9.4% of those 85 and older according to the NLTCS study.

- **Age associated cognitive impairment or AACI**, is a very mild form of mental decline that may be brought to the physician’s attention by the patient. The deficiency will not show up on testing, though: a patient should score above 23 on MMSE.

- **Pseudodementia** refers to cognitive slowing and forgetfulness in the elderly in the setting of depression. Key to the diagnosis: if the depression is treated, cognition improves. There is often a family history of depression. Patients affected with pseudodementia may be at increased risk for developing Alzheimer’s Dementia later in life.

- **AChE-I** (acetyl cholinesterase inhibitors) are the standard of care in management of Alzheimer’s Dementia. This category includes the drugs: tacrine, donepezil, rivastigmine, galantamine. These drugs can cause GI upset as a common side effect. Memantine, a NMDA-receptor antagonist is indicated in moderate to severe AD to combat the mechanism of glutamate neurotoxicity.

- The major syndromes of dementia include Alzheimers, Vascular, and Frontotemporal or Pick’s disease. In clinical studies, AD accounted for 39-70% of cases, vascular 13-37%, depression 1-18% and various other conditions have been noted in 26-48% of cases. Reversible causes (folate, B12 deficiency, hypothyroidism and depression) have been found in 3-29% of cases. Dementias whose course could be influenced by therapeutic interventions (vascular, PD) include 20-46% of cases.

- Alzheimer’s dementia is the most common form of dementia in the elderly. The course is insidious. There is a gradual decline in intellectual function, decrease in ADL functioning, and changes in personality. Alterations in behavior are an early finding. Patients generally become passive and course display of emotions, mimicking depression. Half of AD patients express depressive moods during their progressive decline. Psychosis may occur as disease progresses. Classic dementia of AD type exhibit neurobehavioral features including memory impairment, executive dysfunction, aphasia, visuospatial deficits and calculation or abstraction impairments. Patients cannot recognize objects or cannot perform motor tasks. Pt become markedly forgetful and repetitive. Patients exhibit language disturbance –
they may be able to read aloud, but cannot comprehend written material. Patients have difficulty finding words. Patients later in the course of their disease might exhibit neurologic abnormalities such as rigidity, myoclonus, ataxia, seizures and dysarthria.

- Evaluation of dementia includes a detailed HPI with a progressively worsening course. The Mini Mental State Examination provides a brief method for recording and following the changes in the cognitive state. Review of systems or depression screening can help rule out pseudodementia. Medical history can help exclude vascular causes, or other diseases like syphilis or lyme disease. Medications should be reviewed for mimicking dementia. Physical examination can help uncover physical signs of a vascular cause with focal neurological defects or classic signs of PD. Lab assessment can help rule out reversible causes, including hypothyroidism, folate and b12 deficiency. Neuroimaging may be helpful in differentiating a frontotemporal disease versus AD.

<table>
<thead>
<tr>
<th>Syndrome</th>
<th>Features</th>
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<tbody>
<tr>
<td>Alzheimers disease</td>
<td>Gradual onset, progressive; aphasia, amnesia, executive dysfunction, visuospatial impairment, preserved motor function</td>
</tr>
<tr>
<td>Vascular diseases</td>
<td>Abrupt onset, stepwise progression, fluctuating course, preservation of personality, focal neurological signs</td>
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<tr>
<td>Frontotemporal dementia (Pick)</td>
<td>Gradual onset, progressive; personality changes like disinhibition; aphasia, executive dysfunction, preserved motor function</td>
</tr>
<tr>
<td>Lewy body dementias</td>
<td>Gradual onset, progressive; aphasia, fluctuating severity, hallucinations, extrapyramidal signs, symptoms</td>
</tr>
<tr>
<td>Psychiatric disorders (depression)</td>
<td>Depressed mood, psychomotor retardation, cognitive slowing, executive dysfunction</td>
</tr>
<tr>
<td>Normal Pressure hydrocephalus</td>
<td>Psychomotor retardation, apathy, ataxia, urinary incontinence</td>
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Comments

References


