

UCV

CASE 2

NEUROLOGY

ID/CC	A 68-year-old retired janitor is referred for psychiatric evaluation by her primary care physician for progressive forgetfulness .
HPI	Her daughter notes that she has not been paying her bills on time and adds that her ability to plan ahead has been more disorganized (DISTURBANCE OF EXECUTIVE FUNCTIONING). She is unable to find things around the house and is more forgetful (DISTURBANCE IN MEMORY). The daughter is also worried that her mother “eats only tea and toast” and is no longer interested in activities she once enjoyed (ANHEDONIA).
PE	Alert and oriented to person, place, and year ; unable to recall specific day and month; long-term memory is intact but short-term memory is impaired , as evidenced by inability to recall three objects after 5 minutes; patient has difficulty identifying objects (AGNOSIA) and performing calculations; unable to perform three-stage command or mimic complex hand gestures (APRAXIA); at times, patient demonstrates difficulty generating normal speech (APHASIA); CN II through XII intact with normal motor and sensory function throughout.
Labs	Lytes/CBC: normal. TFTs normal; RPR/VDRL nonreactive. UA: toxicology negative.
Imaging	CT, head (noncontrast): diffuse cerebral atrophy without evidence of mass, infarct, or bleed.
Pathogenesis	Dementia is caused by a variety of illnesses; Alzheimer’s dementia is the most common type and is associated pathologically with neurofibrillary tangles, amyloid plaques, and degeneration of the nucleus basalis of Meynert . Physiologically it is associated with decreased central cholinergic transmission . Risk factors include age, family history (having a close family member with Alzheimer’s), a history of depression, low educational level, vascular disease, and apolipoprotein E4 homozygous alleles.
Epidemiology	Dementia affects approximately 15% to 20% of those over 65; in patients older than 80, severe dementia occurs with a prevalence of 40%.
Management	Thorough medical evaluation is critical to rule out treatable causes of dementia (e.g., folate deficiency, vitamin B ₁₂ or B ₁ deficiency, syphilis, thyroid dysfunction, vasculitis, and normal pressure hydrocephalus). Treatment for Alzheimer’s dementia is largely supportive, with the aim of keeping the patient safe, educating the family, and increasing support and structure systems as clinically warranted. Donepezil (Aricept), tacrine (Cognex), rivastigmine (Exelon), and galantamine (Reminyl) are reversible acetylcholinesterase inhibitors used in the treatment of Alzheimer’s dementia (note that tacrine has been associated with hepatic

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failure and is less commonly used). Memantine, an N-methyl-D-aspartate (NMDA) antagonist, is approved for use in the advanced stages of disease. Vascular dementia can be treated or prevented with **aspirin**, **estrogen replacement**, and reduction of cardiovascular risk factors. Low doses of high-potency **neuroleptics** (e.g., haloperidol) are useful in the management of the agitated dementia patient; higher doses or atypical neuroleptics should be used when psychotic symptoms are prominent. Anticholinergic agents (e.g., benztropine) and benzodiazepines should be administered cautiously because they may cause further impairment of cognition.

Complications

Many patients with significant dementia develop delusions (especially the paranoid type) and hallucinations. Depression occurs in half of patients. In most dementias, deterioration occurs over 5 to 10 years, leading to death.

Differential Diagnosis

■ **Delirium** is characterized by a gross impairment in consciousness, attention, and orientation. Furthermore, the onset of delirium is acute, and its course often fluctuates dramatically over hours or days.

■ **Multi-infarct Dementia** is the second leading cause of progressive cognitive decline and results from repeated CNS infarctions of various sizes. The clinical course of vascular dementia is often characterized by a “stepwise” decline that is thought to correlate with each successive ischemic event.

■ **Alcoholic Dementia** may be due to either chronic use or an associated thiamine (vitamin B₁) deficiency.

■ **Pick's Disease** results from frontal and temporal lobe atrophy.

■ **Major Depressive Disorder** can mimic dementia (PSEUDODEMENTIA).

■ **Dementia Due to General Medical Conditions** may result from neoplasms, normal pressure hydrocephalus, demyelinating illnesses, trauma, toxic encephalopathies, and infectious diseases (e.g., HIV).

■ **Normal Aging** is associated with minor memory problems (without the impairment of learning) that do not interfere with functioning (BENIGN SENESCENCE).