Disclosures

I have no relevant financial relationships or conflicts of interest to disclose.

Objectives

- Review the definition and diagnostic criteria for dementia.
- Discuss screening tools for dementia and who should be screened.
- Support patients, families and caregivers who have been diagnosed with dementia.
- Review the definition and diagnostic criteria for delirium.
- Discuss ways to prevent and manage delirium.
- Prognosis for patients with delirium.
Dementia and Delirium in Geriatric Patients
Lynn M. Wilson, DO

Gradual and progressive decline in mental processing affecting:
- Short-term memory
- Communication
- Language
- Judgment
- Reasoning
- Abstract thinking

Dementia eventually affects long-term memory and the ability to perform familiar tasks.
Sometimes there are changes in mood and behavior.

Types of Dementia:
- Alzheimer's Disease: memory, language, visual-spatial disturbances, indifference, delusions, agitation
- Vascular Dementia: abrupt onset, prominent aphasia, stepwise deterioration, motor signs
- Lewy Body Dementia: visual hallucinations, delusions, EPS, fluctuations in mental status, sensitivity to anti-psychotic medications
- Frontotemporal Dementia: personality change, executive dysfunction, hyperorality, preservation of visual-spatial skills
- Others: Mixed Dementia, Parkinson's Disease/Dementia, Creutzfeldt-Jakob Disease, Normal Pressure Hydrocephalus, Huntington's Disease, Korsakoff Syndrome
Alzheimer’s Disease

- Affects 5 million in U.S.; 17 million worldwide
- Affects > 30% of persons > 80 years old
- 6th leading cause of death in this country
- Only disease among the 10 deadliest that cannot be prevented, slowed, or cured
- By the year 2050 estimated to affect 13.5 million people in U.S.
- Accounts for 50% of cases of dementia in autopsy and clinical series
- Occurs naturally only in humans

Who Should We Screen?

- Individuals with memory concerns or other cognitive complaints
- Non-memory triggers: personality change, depression, deterioration of chronic disease without explanation, and falls or balance issues
- Informant reports of cognitive impairment, with or without patient concurrence
- Medicare beneficiaries, as part of the Annual Wellness Visit


https://www.alz.org/media/Documents/alzheimers-well-visit-algorithm.pdf
Cognitive Tests

- Mini-Cog
- General Practitioner Assessment of Cognition Screening Test (GPCOG)
- Animal Naming
- Memory Impairment Screen (MIS)
- Picture Based Memory Impairment Screen (PBIM)
- Saint Louis University Mental Status Examination (SLUMS)
- Montreal Cognitive Assessment (MoCA)
- Mini Mental Status Exam (Folstein, MMSE)
- Clock Drawing Test (CDT)

Informant Screening Tools

- Eight-item Informant Interview to Differentiate Aging and Dementia (AD8)
- General Practitioner Assessment of Cognition (GPCOG)
- Short Informant Questionnaire on Cognitive Decline in the Elderly (Short IQCODE)

Dementia Diagnosis

- History from patient and informant
- Review medication list: benadryl, zolpidem, anticholinergics
- Physical Exam including cognitive testing
- Screen for depression
- CBC, CMP, TSH, B12, Syphilis, HIV
- Brain imaging (if needed/indicated)
### Stage 1: Normal Aging
- No deficits
- Mental Age: Adult (18+)
- MMSE Score: 29 - 30
- CDT: 3
- SLUMS: 27 - 30
- MoCA: 29 - 30

### Stage 2: Possible Mild Cognitive Impairment
- Subjective deficits
- Mental Age: Adult (18+)
- MMSE Score: 28 - 29
- CDT: 27 - 30
- SLUMS: 28 - 29
- MoCA: 28 - 29

### Stage 3: Mild Cognitive Impairment
- Objective functional deficit
- Mental Age: 12 - 18
- MMSE Score: 24 - 28
- CDT: 21 - 26
- SLUMS: 26 - 28
- MoCA: 24 - 28

### Stage 4: IADLs Become Affected
- Mental Age: 8 - 12
- MMSE Score: 19 - 20
- CDT: 1 - 20
- SLUMS: 1 - 20
- MoCA: 1 - 26

### Stage 5: Moderate Dementia
- Needs help selecting proper attire
- Mental Age: 5 - 7
- MMSE Score: 15
- CDT: 1
- SLUMS: 1
- MoCA: 1

### Stage 6a: Moderately Severe Dementia
- Needs help putting on clothes
- Mental Age: 5 - 9
- MMSE Score: 1
- CDT: 1
- SLUMS: 1
- MoCA: 1

### Stage 6b: Moderately Severe Dementia
- Needs help bathing
- Mental Age: 4 - 8
- MMSE Score: 1
- CDT: 1
- SLUMS: 1
- MoCA: 1

### Stage 6c: Moderately Severe Dementia
- Needs help toileting
- Mental Age: 4 - 5
- MMSE Score: 1
- CDT: 1
- SLUMS: 1
- MoCA: 1

### Stage 6d: Moderately Severe Dementia
- Urinary incontinence
- Mental Age: 3 - 4
- MMSE Score: 1
- CDT: 1
- SLUMS: 1
- MoCA: 1

### Stage 6e: Moderately Severe Dementia
- Fecal incontinence
- Mental Age: 2 - 3
- MMSE Score: 1
- CDT: 1
- SLUMS: 1
- MoCA: 1

### Stage 7a: Severe Dementia
- Speaks 5 - 6 words a day
- Mental Age: 1
- MMSE Score: 0
- CDT: 0
- SLUMS: 0
- MoCA: 0

### Stage 7b: Severe Dementia
- Speaks only 1 word clearly
- Mental Age: 1
- MMSE Score: 0
- CDT: 0
- SLUMS: 0
- MoCA: 0

### Stage 7c: Severe Dementia
- Can no longer walk
- Mental Age: 5 - 6 months
- MMSE Score: 0
- CDT: 0
- SLUMS: 0
- MoCA: 0

### Stage 7d: Severe Dementia
- Can no longer sit up
- Mental Age: 3 - 4 months
- MMSE Score: 0
- CDT: 0
- SLUMS: 0
- MoCA: 0

### Stage 7e: Severe Dementia
- Can no longer smile
- Mental Age: 2 - 4 months
- MMSE Score: 0
- CDT: 0
- SLUMS: 0
- MoCA: 0

### Stage 7f: Severe Dementia
- Can no longer hold up head
- Mental Age: 0 - 2 months
- MMSE Score: 0
- CDT: 0
- SLUMS: 0
- MoCA: 0

### Benefits of Early Detection
- A better chance of benefiting from treatment
- More time to plan for the future
- Lessened anxieties about unknown problems
- Increased chances of participating in clinical drug trials, helping advance research
- An opportunity to participate in decisions about care, transportation, living options, financial and legal matters
- Time to develop a relationship with doctors and care partners
- Benefit from care and support services, making it easier for them and their family to manage the disease

### When to Refer
- Inconclusive diagnosis
- Atypical presentation
- Behavioral/psychiatric symptoms
- Younger-onset (< 65 years)
- Second opinion
- Patient/family preference
- Family dispute
- Caregiver support
Delirium is a medical emergency which is characterized by:
- Acute and fluctuating onset of confusion
- Disturbance in attention
- Disorganized thinking
- Decline in level of consciousness
- Delirium cannot be accounted for by a preexisting dementia; however, can co-exist with dementia.
Risk Factors

<table>
<thead>
<tr>
<th>Independent Vulnerability Factors for Delirium</th>
<th>Independent Predictive Factors for Delirium—What’s next?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vision impairment &lt;0.20</td>
<td>Sensitivity, use of physical restraints or sedation</td>
</tr>
<tr>
<td>Severe delirium (score ≥ 14)</td>
<td>Presence of delirium, delirium, incontinence, confusion</td>
</tr>
<tr>
<td>Cognitive impairment (MMSE ≤ 15)</td>
<td>Diagnosis, isolation, agitation</td>
</tr>
<tr>
<td>1 Point each (≥ 15)</td>
<td>Total:</td>
</tr>
<tr>
<td>0 points: 4%</td>
<td>0-2 points: 20%</td>
</tr>
<tr>
<td>3+ points: 35%</td>
<td></td>
</tr>
</tbody>
</table>

Assume reversibility
- Review medications (prescription, OTC) and alcohol usage
- Exclude infection and other medical causes:
  - CXR
  - Urialysis
  - Oxygen saturation
  - EKG
  - Brain imaging
  - CT
  - MRI, MRA
  - EEG

Lab studies:
- CBC
- Electrolytes
- LFTs
- ammonia
- Physical function
- blood transfusion
- albumin
- INR, INR
calcium
- Glucose
- ARD
- Review previous level of functionality
Delirium

- Confusion Assessment Method (CAM)
  - Presence of acute onset and fluctuating course
  - Inattention
  - Disorganized thinking
  - Altered level of consciousness
- 4AT
  - www.the4AT.com

4AT

Causes

- Medications:
  - Antihistamines
  - Anti-inflammatory agents, including corticosteroids
  - Bacterial, viral, or fungal infections
  - Cardiac arrhythmia
  - Lithium
  - Opioids
- Infections
  - Bacterial
  - Viral
  - Fungal
- Metabolic disorders
  - Acute kidney failure
  - Diabetic ketoacidosis
  - Hypoglycemia
  - Hypothyroidism
- Cardiovascular
  - Acute ischemia
  - Ischemic heart disease
  - MI
  - Cardiogenic shock
- Neurologic
  - Head trauma
  - Seizures
  - Cerebrovascular accidents
  - TIA
  - Tumors
- Misc.
  - Fecal impaction
  - Postoperative state
  - Urinary retention
  - Sleep deprivation
Prevention

<table>
<thead>
<tr>
<th>Target</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive impairment</td>
<td>Orientation protocol: board with names, daily schedule, and reorienting communication</td>
</tr>
<tr>
<td>Sleep deprivation</td>
<td>Non-pharmacologic: warm milk or herbal tea, music, massage, noise reduction, essential oils 0.5 mg melatonin or 8 mg ramelton</td>
</tr>
<tr>
<td>Immobility</td>
<td>Early mobilization: ambulation or ROM 3 times a day, minimal immobilizing equipment</td>
</tr>
<tr>
<td>Visual impairment</td>
<td>Visual aids, adaptive equipment</td>
</tr>
<tr>
<td>Hearing impairment</td>
<td>Amplification, cerumen removal, special communication techniques</td>
</tr>
<tr>
<td>Dehydration</td>
<td>Early recognition and volume repletion</td>
</tr>
<tr>
<td>Infection, HF, hypoxia, pain</td>
<td>Identify and treat underlying medical problems</td>
</tr>
</tbody>
</table>

Management

- Environmental:
  - Brightly lit in daytime; dim at night; window bed if possible
  - Decreased stimuli in the room; private room if available

- Familiar Faces:
  - Spouse
  - Family members
  - 1:1 Sitter if no family available

- Medications:
  - Antipsychotics: START LOW, GO SLOW
  - Benzodiazepines if antipsychotics are ineffective

- Restraints:
  - Only use if patient safety is at risk (soft restraints, mitts)

Prognosis

- Weeks to months to resolve
- Waxing and waning mental status continues as patient improves
- Trend toward improvement
- Persistent symptoms:
  - At discharge: 44.7%
  - At 1 month: 22.8%
  - At 3 months: 25.6%
  - At 6 months: 21%
- Prolonged delirium associated with higher risk of death (2.5 times within 1 year vs those who delirium resolved)
References


Questions?