THE 3 D’S - DELIRIUM, DEMENTIA, AND DEPRESSION

Welcome!

November 19, 2021

Thomas Caprio, MD, MPH, MS
Thomas.Caprio2@va.gov
At the conclusion of this presentation participants should be able to:

1. Distinguish the key clinical differences between delirium, dementia, and depression

2. Outline a rational approach to evaluating dementia and delirium and to communicate this to patients and families

3. Discuss screening tools for depression used in clinical practice with older adult patients
Mr. S is a 94 year-old man who is a Navy veteran now newly resides at the CLC

• 2 year history of progressive cognitive decline while residing in assisted living facility

• Needs increasing assistance with all ADLs

• New incontinence of bladder

• 2 recent hospital admissions for dehydration and pneumonia

• Now using walker, sustained fall month prior without injury

• Increased “agitation” and confusion at night
What is delirium?

• Disturbance in **consciousness** with reduced ability to focus (poor attention and “distractibility”)

• Change in **cognition** (memory impairment, disorientation, language)

• Occurs over a short period of time (hours or days) and tends to **fluctuate** during course of day

• Usually multifactorial (many risk factors)
Words to think about ...“delirium”

- Agitated
- Restless
- Combative
- Aggressive
- Resistive to care
- Verbally disruptive
- Rambling speech

- Confused
- Lethargic
- Incoherent
- Disoriented
- Withdrawn
- Hallucinations
- Emotional
Consequences of Delirium

- Falls, fractures, incontinence
- Increased nursing care
- Frequent reason for hospitalization
- Distressing to family/caregivers and staff
- Poor quality of life and distressing for patients (source of “suffering”)
Delirium: Patient Risk Factors

- Pre-existing dementia
- Pre-existing mental illness
- History of stroke
- Pre-existing brain tumor (primary or metastatic)
- Malignancies
- Infection (pneumonia, sepsis)
Patient Risk Factors

Renal or Hepatic Failure
- decreased clearance of opioids and other drugs
- Hepatic encephalopathy

• Metabolic and Endocrine Abnormalities
  - hypercalcemia, uremia, hyper or hypoglycemia
  - thyroid and adrenal gland dysfunction

• Dehydration- increased BUN or Sodium

• Hypoxia

• “Severe Illness”- Trauma/Hospitalization
Patient Risk Factors

• **Sensory Deprivation**
  - Visual or Hearing Impairments—uncorrected deficits (No glasses, no hearing aids)
  - Decreased stimuli or orientation (limited contact with others, no orientation to outside world)

• **Changes in Environment**
  - Acute hospital admission; change in room

• **Medications**
  - Anticholinergic drugs

• **Constipation** - Fecal Impaction

• **Urinary Retention**

*Important to distinguish from Alcohol/Drug withdrawal*
Other Risk Factors

• Physical Restraints
• Malnutrition
• Polypharmacy (more than 3 medications added to a medication profile)
• Insertion of an Indwelling Urinary Catheter
• Uncontrolled pain

*Please Note:* We have the ability to address many of these factors
Confusion Assessment Method (CAM)

• Standardized tool for delirium screening in many different care settings
• Can be used to monitor status over time
• Four main areas assessed:
  1. Acute Onset (with fluctuating course)
  2. Inattention
  3. Disorganized Thinking
  4. Altered Level of Consciousness
Confusion Assessment Method (CAM)

1) Acute change with fluctuating course of mental status
2) Inattention
3) Altered level of consciousness
4) Disorganized thinking

Positive CAM result

Scoring the CAM

Clinical Case

Mr. S is a 94 year-old man who is a Navy veteran who now resides in a senior housing complex seen by HBPC team

Dx: Alzheimer's Disease (7 years ago)

• Needs assistance with all ADLs
• New incontinence of bladder
• 2 hospital admissions last 6 months: following a fall and for treatment of pneumonia
• Difficulty using walker
• More confusion especially at night
Clinical Case – Mr. S

- Now admitted to CLC
- Weight loss
- Swallowing problems
- Needs hand feeding
- Speaks only a few words mostly “jibberish” sounds or “word salad”
- Nursing staff concern about “agitation” and “sundowning”
- Calling out at night (“help me”)
- Combative/resistive to care routines at facility
- Difficulty falling asleep but usually sleeps through night
- No response from antipsychotic medication
- No longer recognizes family members
- Recurrent falls when he attempts to walk unassisted
Main Features: Delirium vs. Dementia

**Delirium**
- Abrupt onset
- Decreased level of consciousness (lethargic)
- Random behaviors
- Hallucinations and delusions common in delirium
- Sleep/wake cycle changes, sundowning is classic
- Sometimes reversible

**Dementia**
- Progressive (slow) onset
- Alert and confused
- Consistent behaviors
- Psychosis possible in later stages of dementia
- Minimal changes in sleep, sometimes worse at night
- Irreversible
Dementia

VHA Recommendations

• **General screening for dementia in asymptomatic individuals not recommended**

• Use of Dementia (Cognitive Impairment) Warning Signs should prompt further assessment:
  – History/Physical Examination
  – Laboratory Testing
  – Neuropsychological (cognitive) testing
  – Brain Imaging
Warning Signs

**Signs Clinicians may notice**
- Inattentive to appearance or unkempt, inappropriately dressed for weather or disheveled?
- A “poor historian” or forgetful?
- Fail to keep appointments, or appear on the wrong day or wrong time for an appointment?
- Have unexplained weight loss, “failure to thrive” or vague symptoms e.g., dizziness, weakness?
- Repeatedly and apparently unintentionally fail to follow directions e.g., not following through with medication changes?
- Defer to a caregiver or family member to answer questions?

**Signs Caregivers may report**
- Asking the same questions over and over again.
- Becoming lost in familiar places.
- Not being able to follow directions.
- Getting very confused about time, people and places.
- Problems with self-care, nutrition, bathing or safety

**KEEP IN MIND:** warning signs alone does not mean dementia
Other Common Changes

• Progressive personality change
• Behavior Changes (impulsivity, sexual disinhibition, anger, argumentative, hoarding)
• Poor judgment, insight, problem-solving
• Later stages: Agitation, Restlessness, and Wandering
• Apathy is common in early stages (social withdrawal, loss of interest)
Mini-Cog Assessment

1. 3 Item (word recall)
2. Clock-Drawing – “ten minutes after eleven”
The Saint Louis University Mental Status (SLUMS) Examination for Detecting MCI and Dementia
### AD8 Dementia Screening Interview

#### Remember, “Yes, a change” indicates that there has been a change in the last several years caused by cognitive (thinking and memory) problems.

<table>
<thead>
<tr>
<th></th>
<th>YES, A change</th>
<th>NO, No change</th>
<th>N/A, Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Problems with judgment (e.g., problems making decisions, bad financial decisions, problems with thinking)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Less interest in hobbies/activities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Repeats the same things over and over (questions, stories, or statements)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Trouble learning how to use a tool, appliance, or gadget (e.g., VCR, computer, microwave, remote control)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Forgets correct month or year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Trouble handling complicated financial affairs (e.g., balancing checkbook, income taxes, paying bills)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Trouble remembering appointments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Daily problems with thinking and/or memory</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL AD8 SCORE**

---

Adapted from Galvin JE et al, The AD8, a brief informant interview to detect dementia, Neurology 2005;65:659-664

Copyright 2005. The AD8 is a copyrighted instrument of the Alzheimer’s Disease Research Center, Washington University, St. Louis, Missouri. All Rights Reserved.

**AD-8®**
Clinical Case

Mr. S is a 94 year-old man who is a Navy veteran now residing in assisted living facility for the last 2 years

- **Dx:** Alzheimer's Disease (7 years ago)
- Needs more assistance with all ADLs and having more pain complaints
- 2 hospital admissions last 6 months: following a fall and for treatment of pneumonia
- Used to enjoy visits by family and participate in facility activities
- Now prefers to stay in his room, sleeping more (late out of bed and napping throughout day)
- More confusion and anxiety especially at night (up very early morning)
- Ongoing weight loss and no interest in meals
- “I would be better off dead, I am no use to anybody anymore”
Depression in Older Adults

- Often referred to as “late life depression” in geriatric practice
- Ranges from about 5% of community dwelling older adults up to 20% of nursing home residents
- Increased use of medical services and a risk factor for death and disability
- Can affect memory, sleep, pain
- Anxiety often is often concurrent
- Effective treatments exist
DIAGNOSTIC CRITERIA: Depression

• 5 or more symptoms lasting >2 wk, change from previous functioning:

  – Depressed mood and/or loss of interest

  – Altered sleep, loss of energy, appetite change or weight loss, feelings of worthlessness/guilt, psychomotor changes, loss of concentration and focus, recurrent thoughts of death
Depression: Diagnostic Considerations in Older Adults

• Perceptions and stigma of psychiatric illness
• Concomitant drug therapy
• Comorbid medical conditions
• Co-existing neurologic/psychiatric disorders
• Variable clinical presentation (atypical or subsyndromal)
• History of mental health or alcohol/substance abuse problems
Depression: Diagnostic Considerations in Older Adults

- Less verbalization of emotions or guilt
- Minimize or deny depressed mood (“masked depression”)
- Somatic (physical) complaints are common
- Personality changes, withdrawal and/or apathy are common
- High rates of disability are observed and weight loss
Mood, Cognition and Health in Late Life

Complex Interactions

- Age
- Mood
- Cognition
- Physical Health
Subsyndromal Depression

Also known as
- subclinical depression
- mild depression

• 2 - 4 times more common than major depression

Associated with:
- subsequent major depression
- greater use of health services
- reduced physical, social functioning
- loss of quality of life
Depression in Older Adults

• **NOT** a normal part of aging
• 2 million Americans over age 65 have depressive illness
• Sub-syndromal depression increases the risk of developing depression
  • Leads to early relapse and chronicity
• Often co-occurs with other serious illnesses
• Under-diagnosed and under-treated
General Depression Screen

- “Do you often feel sad or depressed?”
  - Sensitivity 69-85%
  - Specificity 65-90%
Evidence-Based Screening: Mood Disorders in Elderly

- Beck Depression Inventory (BDI)
- CES Depression Scale (CES-D)
- Zung Depression Rating Scale
- Cornell Scale for Depression in Dementia
- Geriatric Depression Scale
- Patient Health Questionnaire (PHQ-9)
Patient Health Questionnaire PHQ-9

• Validated screening tool for DEPRESSION
• “Over the last 2 weeks, how often have you been bothered by any of the following problems?”
• Can be used for screening and monitoring response to treatment (can be administered every 2 wks if needed)
PHQ-9 Scores

• Add scores for symptom frequency responses (sum of Column 2); range from 0 to 27
• Clinical Interpretation: Using cut-off score $>10$
  – 88% sensitivity and 88% specificity for depression
• Interpretation of severity of depression:
  – $<5$ – none (negative screen)
  – 5 – mild
  – 10 – moderate
  – 15 – moderately severe
  – 20 – severe
PHQ-9 - - - ->>> PHQ-2

• Items A and B are most important! ("Anhedonia & Hopelessness")

<table>
<thead>
<tr>
<th>A. Little interest or pleasure in doing things</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Feeling down, depressed, or hopeless</td>
</tr>
</tbody>
</table>

• Even if total score <5, if **either item is positive** must consider other Depressive Disorders:
  – Subsyndromal ("minor") depression
  – Dysthymic disorder
  – Adjustment disorder with depressed mood
# Prominent Features and Overlap in Delirium, Dementia, and Depression

<table>
<thead>
<tr>
<th>Prominent features</th>
<th>Delirium</th>
<th>Dementia</th>
<th>Depression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory problems&lt;sup&gt;a&lt;/sup&gt;</td>
<td>+++</td>
<td>+++</td>
<td>+</td>
</tr>
<tr>
<td>Sleep disturbance</td>
<td>+++</td>
<td>+/-</td>
<td>+</td>
</tr>
<tr>
<td>Poor attention</td>
<td>+++</td>
<td>+/-</td>
<td>+/-</td>
</tr>
<tr>
<td>Mood disturbance</td>
<td>+/-</td>
<td>+/-</td>
<td>+++</td>
</tr>
<tr>
<td>Sensory or perceptual disturbance</td>
<td>+++</td>
<td>+/-</td>
<td>+/-</td>
</tr>
<tr>
<td>Disorientation</td>
<td>+++</td>
<td>++</td>
<td>-</td>
</tr>
<tr>
<td>Acute onset</td>
<td>++</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Slow progression</td>
<td>-</td>
<td>+</td>
<td>+/-</td>
</tr>
<tr>
<td>Somatic complaints</td>
<td>-</td>
<td>+/-</td>
<td>+</td>
</tr>
<tr>
<td>Anhedonia or apathy</td>
<td>+/-</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>Fluctuating symptoms</td>
<td>++</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Risk for poor health outcomes&lt;sup&gt;b&lt;/sup&gt;</td>
<td>++</td>
<td>+++</td>
<td>+/-</td>
</tr>
</tbody>
</table>

<sup>a</sup>:

<sup>b</sup>:

**Source:** Downing LJ, Caprio TV, Lyness JM. Geriatric Psychiatry Review: Differential Diagnosis and Treatment of the 3 D’s Delirium, Dementia, and Depression. Curr Psychiatry Rep. 2013
The prevalence of dementia is increasing with the rapid growth of the older adult population. Dementia is the loss of cognitive functioning—thinking, remembering, and reasoning—and changes in function and behavior. This course will review important aspects of dementia as well as steps that primary care providers and staff can take to assess it and help older persons to manage it.
3Ds: Delirium-Dementia-Depression Assessment Guide

This pocket card provides tools to help identify three common geriatric syndromes that can affect thinking abilities: delirium, dementia, and depression. It is intended to be used as a part of a comprehensive assessment and the data entered into the electronic health record. Asymptomatic screening is NOT recommended.

Suggested Approach to Assessment

1. Conduct a general health assessment, including physical exam and labs. E.g., CBC, chem 7, liver panel, calcium, TSH, B12, HIV w/verbal consent documented.
2. Rule out delirium for all patients with cognitive symptoms.
3. Conduct assessment for suicidal thoughts per VA guidelines.
4. Are unusual/atypical symptoms present? E.g., focal neurological symptoms, acute mental status changes. Consider neuroimaging and/or refer for specialty care, such as neuropsychology, psychiatry and/or neurology.

Contact Julie Moorer, RN, to order copies: Julie.Moorer@va.gov

3Ds Comparison Table

<table>
<thead>
<tr>
<th>Feature</th>
<th>Delirium</th>
<th>Dementia</th>
<th>Depression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Onset</td>
<td>Acute</td>
<td>Gradual (years)</td>
<td>Gradual (weeks-months)</td>
</tr>
<tr>
<td>Course</td>
<td>Transient/reversible</td>
<td>Progressive/irreversible</td>
<td>Slowly fluctuating/reversible</td>
</tr>
<tr>
<td>Common Cognitive Deficit</td>
<td>Attention</td>
<td>Memory</td>
<td>Concentration</td>
</tr>
<tr>
<td>Consciousness</td>
<td>Fluctuations</td>
<td>Usually Normal</td>
<td>Normal</td>
</tr>
<tr>
<td>Hallucinations</td>
<td>Common</td>
<td>Less common early</td>
<td>Only if severely depressed</td>
</tr>
<tr>
<td>Agitation</td>
<td>Common</td>
<td>Less common early</td>
<td>Restlessness or sluggishness</td>
</tr>
<tr>
<td>Disorganized Thought</td>
<td>Common</td>
<td>Less common early</td>
<td>Rare</td>
</tr>
<tr>
<td>Speech</td>
<td>Sometimes disorganized</td>
<td>Usually normal, with word-finding problems</td>
<td>Normal, slowed</td>
</tr>
<tr>
<td>Clinical Approach</td>
<td>Address as medical emergency</td>
<td>Conduct a workup</td>
<td>Follow evaluation and treatment guidelines</td>
</tr>
<tr>
<td>Assessment Tools</td>
<td>CAM (see panel)</td>
<td>MiniCog; SLUMS; A8 (see panels)</td>
<td>PHQ-9 (see panel)</td>
</tr>
</tbody>
</table>

https://www.gerischolars.org/

Assessment Tools

"3Ds Card": Delirium-Dementia-Depression Assessment Guide

Please contact Julie.Moorer@va.gov to order copies
Conclusion

- Delirium, Dementia, and Depression are common but it is NOT normal aging
- Risk increases with medical comorbidity and functional decline
- The tools for identifying the 3D’s should be a standard component of an evaluation in change of mental status or behavior
- Evidence-based screening tools are effective in diagnosing/distinguishing
- Be alert to subsyndromal and atypical presentations