Dementia & Delirium: Evaluation, Management & Masquerading Pitfalls

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Objectives

• Review appropriate strategies for work up of cognitive impairment.
• Understand evaluation and management techniques for dementia with behavioral disturbance.
• Appreciate alternative diagnoses that can masquerade as dementia or delirium.

I have no financial disclosures.

Secret objectives

• Believe in the power of drugs.
• I hate to tell you... it's probably not a UTI.
• Know the 5 P's of dementia behaviors.
• Have a really good PARQ about antipsychotics.
Mr. Jones
Jim, 79. Wife has concerns:
• Repetitive statements, questions
• Forgetfulness
• Difficulty with bill paying
• Difficulty remembering to take meds
• Got lost driving in their neighborhood
• No longer able to multitask, cook meals
• Not reading the paper, attending softball games

Mr. Jones
What is your preliminary concern?

Mr. Jones
What is your preliminary concern?
What do you want to do next?
Diagnostic Tools

**SLUMS** - St Louis University Mental Status Exam

**MoCA** - Montreal Cognitive Assessment

**MMSE** - Mini Mental State Exam
Screening for Cognitive Impairment

MINI-COG

3-Item recall
Remember three objects (pencil, truck, book / apple, watch, penny).

Clock Draw
Draw a large circle, fill in the numbers on a clock face, and set the hands at 11:10 (ten minutes after eleven)

3-Item recall
Fails the screen if unable to remember at least 2 of 3 objects in one minute (or following clock).

* 99% sensitivity in detecting cognitive impairment

Scores a 17/30 on his SLUMS.
Wife describes many 2-3 years of gradually worsening cognitive difficulty.
No abnormalities on his MSK or neuro exam other than cognitive testing.

Mr. Jones

What is your preliminary concern?
What do you want to do next?
Differential

Rule out correctable causes
- CBC, B12 (MMA), folate (homocysteine), TSH, +/- RPR
  +/- head CT

Brain imaging if:
- Onset < age 65
- Asymmetric neurological deficits
- Concern for normal pressure hydrocephalus (gait instability, cognitive impairment, urinary incontinence)
- New onset symptoms (especially rapid decline)
- First line study: noncontrast head CT

Differential

Watch for pseudo-dementia
- Predominant apathy, anhedonia
- Unkempt or disheveled appearance
- Increased social isolation
- Poor concentration or impaired attention
- Consider Geriatric Depression Scale (GDS)
**Differential**

**Watch for pseudo-dementia**
- Predominant apathy, anhedonia
- Unkempt or disheveled appearance
- Increased social isolation
- Poor concentration or impaired attention
- Consider Geriatric Depression Scale (GDS)
- Treatment of depression (e.g. SSRI) can lead to cognitive recovery


Photo credit: www.synergyhomecare.com

**Differential**

The most easily reversible cause of cognitive impairment: **DRUGS**

- Anticholinergics (Tylenol PM, diphenhydramine/Benadryl)
  - Bladder antispasmodics (oxybutynin/Ditropan)
  - TCAs (amitriptyline, nortriptyline)
- Benzodiazepines
- Some SSRIs (paroxetine/Paxil)
- H2 blockers (cetirizine/Zyrtec, famotidine/Pepcid)
- Sleep aids (zolpidem/Ambien)
- Opiates (morphine, oxycodone, hydrocodone)
- Cardiac drugs (digoxin, amiodarone)

Believe in the power of drugs.

Alzheimer’s Dementia

- Pervasive forgetfulness (most common)
- Repeating questions and statements
- Forgetting to pay bills, take medications correctly, and problems with time orientation
- Geographic disorientation, word-finding and name-finding difficulties, and lapses in judgment and problem-solving abilities
- Apathy, loss of interest in previous pastimes and activities, and loss of initiative

Detection of Cognitive Impairment: What geriatricians wish every PCP would do

- Document cognitive testing
- Advance care planning
- Refer to Alzheimer’s Association
- Refer to Neurology or Geriatrics
Mrs. Dougherty

Rita, 84
Independent in ADLs, mostly in IADLs. Lives on same property as son.
Son calls with concerns:
• More confused for 2 days
• Forgot to make lunch and dinner yesterday
• Dry cough
• Otherwise seems normal
• No recent fevers, chills, diarrhea, abdominal pain, urinary urgency, frequency or dysuria

Photo credit: www.clinicalresearchsociety.org
UTI vs Asymptomatic Bacteriuria
Prevalence of asymptomatic bacteriuria in selected populations:

<table>
<thead>
<tr>
<th>Population</th>
<th>Prevalence, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elderly persons (&gt;70) in the community⁴</td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>10-16</td>
</tr>
<tr>
<td>Men</td>
<td>4-19</td>
</tr>
<tr>
<td>Elderly persons in long term care⁴</td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>25-50</td>
</tr>
<tr>
<td>Men</td>
<td>15-40</td>
</tr>
</tbody>
</table>


IDSA Guidelines for the Diagnosis & Treatment of Asymptomatic Bacteriuria
Treatment of asymptomatic bacteriuria is not recommended for:
- Older persons living in the community (A-II).
- Elderly, institutionalized subjects (A-I).
- Patients with indwelling urethral catheters (A-I).


American Geriatrics Society
AGS Choosing Wisely
Ten Things Physicians and Patients Should Question

Don’t use antimicrobials to treat bacteriuria in older adults unless specific urinary tract symptoms are present. Cohort studies have found no adverse outcomes for older men or women associated with asymptomatic bacteriuria. Antimicrobial treatment studies for asymptomatic bacteriuria in older adults demonstrate no benefits and show increased adverse antimicrobial effects.
Mrs. Dougherty

Rita’s son calls again a few days later to let you know that her confusion was a little better yesterday and she is back to herself today.

Your MA asks whether she had been taking any new medications in the last week.

Her cough, also, has resolved.

Dementia - Treatment
<table>
<thead>
<tr>
<th>Drug</th>
<th>Approved Indication</th>
<th>Suggested Dosing</th>
<th>Cautions / Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Donepezil</td>
<td>Mild to severe AD</td>
<td>5 mg once daily; can ↑ to 10 mg daily after 4 wks</td>
<td>- GI upset (N/V, anorexia, diarrhea) - Bradycardia</td>
</tr>
<tr>
<td>Rivastigmine</td>
<td>Mild to moderate AD</td>
<td>Transdermal patch: 4.6 or 9.5 mg daily</td>
<td>- GI upset</td>
</tr>
<tr>
<td>Memantine</td>
<td>Moderate to severe AD</td>
<td>5 mg BID, can ↑ to 10 mg BID after 3-4 weeks</td>
<td>- Fatigue, pain, hypertension, headache, constipation, vomiting, back pain, somnolence, dizziness</td>
</tr>
</tbody>
</table>

NICE Guidelines (UK)

Prescribers should only start treatment with donepezil, galantamine, rivastigmine or memantine on the advice of a clinician who has the necessary knowledge and skills. Treatment should be continued only when it is considered to be having a worthwhile effect on cognitive, global, functional or behavioral symptoms.

https://www.nice.org.uk/guidance/TA217
Mr. Smith

Bill, 84
Here for follow up of Alzheimer’s.

- Last SLUMS 11/30.
- Oriented to wife and self, not usually to location or situation outside of the home.
- Requires ADL assist (bathing, dressing, hygiene).
- Increasingly aggressive with caregivers (hitting, pinching, striking when they try to get him up from a chair or off the toilet).

What are your concerns?
Mr. Smith

What are your concerns?

How do you characterize what is going on?

Neuropsychiatric symptoms of dementia (NPSD)

- Aggression
- Agitation*
- Apathy
- Depression
- Anxiety
- Sleep disturbance
- Delusions
- Hallucinations
- Disinhibition

*Restlessness, impulsivity, exit-seeking, easy anger, verbal aggression, seeking physical movement
Management: Neuropsychiatric symptoms of dementia (NPSD)

Step 1: History
What is the behavior being described?
- Who, what, when, where
- Social and physical environment
- Patient perspective
- How much distress – to the patient? To the caregiver?

Investigate possible causes of problem behavior
- Medication side effects
- Pain
- Functional limitations
- Worsening medical conditions
- Depression
- Poor sleep hygiene
- Sensory changes
- Fear, sense of loss of control, boredom
- Caregiver expectations

Step 2: Medication review
Are medications contributing to your patient’s delirium (acute) or to her overall cognitive impairment (chronic, or recent change with new agents)?
- Benzodiazepines
- Anticholinergics (antihistamines, muscle/bladder relaxants, tricyclic antidepressants)
- Opiates or other CNS depressants
- Ergot
- Central antihypertensives
- Serotonergic agents
- Dementia meds (cholinergic toxicity)
- SSRI withdrawal (paroxetine/Paxil)
Management: Neuropsychiatric symptoms of dementia (NPSD)

Step 2: Medication review
Avoid starting drugs that can worsen cognitive impairment and delirium
◦ Benzodiazepines
◦ Anticholinergics (diphenhydramine, prochlorperazine, promethazine)
◦ Antispasmodics (oxybutynin,)
◦ Opiates
◦ Muscle relaxants

Step 3: Non-pharmacologic management
Rule out physiologic causes for confusion, aggression, combative behaviors
◦ Voiding (Pee/Poop) – retention, constipation
◦ Pain
◦ PO – hunger or thirst
◦ Psychological distress

Nonpharmacologic Therapies for the Management of Alzheimer Disease

<table>
<thead>
<tr>
<th>MODALITY</th>
<th>TYPE OF DEMENTIA</th>
<th>EVIDENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>a possible measure activities (per patient preference)</td>
<td>mild cognitive impairment, mild to moderate dementia</td>
<td>Decreased neuropsychiatric symptoms and functional capacity, slowing of memory loss</td>
</tr>
<tr>
<td>Mental stimulation programs (e.g., puzzles, word games, past/reminiscence therapy, indoor gardening, baking)</td>
<td>mild to moderate dementia</td>
<td>Improved cognition and self-reported quality of life and well-being; no effect on functional status, mood, or behavior</td>
</tr>
<tr>
<td>Occupational therapy training in coping strategies and cognitive aides</td>
<td>mild to moderate dementia</td>
<td>Improved cognition</td>
</tr>
<tr>
<td>Structured physical exercise programs</td>
<td>mild to severe Alzheimer disease</td>
<td>Improved physical function, reduced neuropsychiatric symptoms (including depression), slower rate of functional decline, no improvement in cognition</td>
</tr>
</tbody>
</table>

Eggerlj T et al, Am Fam Physician. 2017 Jan 15;95(12):
Cholinesterase inhibitors

Meta-analysis showed a small improvement in BPSD (vs placebo, six months of treatment) but the improvement may not be clinically significant.

Donepezil (Aricept) showed no benefit for clinically significant agitation over 12 weeks in a large RCT.

Kales HC et al, BMJ April 2015

Management: Dementia with behavioral disturbance

Step 5: Pharmacologic management

Management: Dementia with behavioral disturbance

Step 5: Pharmacologic management
Management: Dementia with behavioral disturbance

Step 5: Pharmacologic management
- No FDA approved drugs for behavioral disturbance in dementia
- All antipsychotics carry a Black Box Warning (increased risk of death in people with dementia)

Drugs – When & Why

CATIE-AD: Clinical Antipsychotic Trial of Intervention Effectiveness–Alzheimer’s Disease
- 42 site double blind placebo controlled trial of 421 subjects with behavioral and psychological symptoms of dementia (psychosis, aggression, or agitation).
- No significant differences were found in time to discontinuation or in clinical improvement between treatment with antipsychotics and placebo.

Kales HC et al, BMJ April 2015

Drugs – When & Why Not

Risks of atypical antipsychotics:
- Weight gain, diabetes, and the metabolic syndrome;
- Cognitive blunting, confusion
- Somnolence
- Extrapyramidal symptoms
- Abnormal gait & falls

Kales HC et al, BMJ April 2015
Antipsychotics and risk of death

VA retrospective study: 90,000 patients, 65 and older with dementia

Outcomes: mortality risk in 180 days following antipsychotic prescription (monotherapy)
Matched nonusers (age, dementia, comorbidity index, delirium diagnosis within past year)

Maust DT. JAMA Psych 72;5 (2015); 438-445

Findings: antipsychotic use carries higher risk of mortality in elderly patients with dementia than was previously reported

<table>
<thead>
<tr>
<th>Drug</th>
<th>Increased mortality risk</th>
<th>CI</th>
<th>p value</th>
<th>Number needed to harm (NNH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haloperidol</td>
<td>3.8%</td>
<td>1.0 - 6.6%</td>
<td>&lt;0.01</td>
<td>26</td>
</tr>
<tr>
<td>Risperidone</td>
<td>3.7%</td>
<td>2.2 - 5.3%</td>
<td>&lt;0.01</td>
<td>27</td>
</tr>
<tr>
<td>Olanzapine</td>
<td>2.5%</td>
<td>0.3 - 4.7%</td>
<td>0.02</td>
<td>40</td>
</tr>
<tr>
<td>Quetiapine</td>
<td>2.0%</td>
<td>0.7 - 3.3%</td>
<td>&lt;0.01</td>
<td>50</td>
</tr>
</tbody>
</table>

Maust DT. JAMA Psych 72;5 (2015); 438-445
Mr. Smith

You recall that since about age 55, Mr. Smith often took Aleve once or twice a day for osteoarthritis of the hands, knees and back. For several years in his 70s, he took Vicodin daily for the same pain as well as increasing back pain.

Mr. Smith

Plan:

Tylenol 1000 mg TID with food.
Objectives

• Believe in the power of drugs.
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Thank you

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