Delirium in the ED: How we can help

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SJRH-DEM Rounds
14 March 2017
CLINICAL SCENARIO

- 81M via triage
- 3d hx subj. fever, urinary frequency, ↑ nocturia
- tx at home: tylenol, diphenhydramine
- today: confused, overt fever
- PMHx: HTN, mild Alz, HOH
Clinical Scenario

- O/E: 38.9  112  178/90  18  98% RA glu 5.2
- GCS 14- confused, no FND, supple neck
  - took a swing at the LPN initially
- Palpable midline mass to umbilicus
- Catheterized for 1L; + pyuria & nitrites
- Admitted with urosepsis / retention
- 4h later (waiting for bed) has fall climbing OOB
DID IT HAVE TO BE THIS WAY?
OBJECTIVES

- risk factors for delirium
- ddx acute confusion
- recognizing delirium
- mitigating fallout
  - non-pharmacologic interventions
  - pharmacologic approach
- prognosis
Statistically Speaking

“How common is it anyway?”

- Overall:
  - 40% admitted patients >65yo
  - 10-20% on admission
  - 5-10% more during admission

- Special Populations at Risk:
  - Palliative onc: 88%
  - ICU >65yo: 70%
  - Hip #: 50%
  - Cardiac Sx: 30%
  - Gen Sx: 10-15%
  - LTCF residents: 6-14%
WHO'S AT RISK?

- Male
- >60yo, more prevalent >80yo
- Hearing / visual impairment
- Dementia
- Depression
- Functional dependence
- Polypharmacy
- Major medical / surgical illness .... you know .... our patients
cognitive impairment

hearing / visual impairment

severe illness

dehydration / pre-renal azotemia

1-2  2.5x risk ....

>3  NINE FOLD risk increase!
# Differential Diagnoses

<table>
<thead>
<tr>
<th>Section</th>
<th>Diagnoses</th>
</tr>
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<tbody>
<tr>
<td><strong>Infectious</strong></td>
<td>Pneumonia, UTI/retention, Menigoencephalitis, Sepsis</td>
</tr>
<tr>
<td><strong>Toxic/Metabolic</strong></td>
<td>Hypoglycemia, Alcohol/toxic alcohol ingestion OR withdrawal, Electrolyte disturbance, Hepatic OR uremic encephalopathy, Myxedema coma/hyperthyroidism</td>
</tr>
<tr>
<td><strong>Neuropsychiatric</strong></td>
<td>Stroke/TIA, Seizure/postictal, ICH/SAH/SDH, CNS mass, Wernicke's, Psychosis/Depression/Mania</td>
</tr>
<tr>
<td><strong>Cardiopulmonary</strong></td>
<td>CHF, MI, PE, Hypoxia, AECOPD/CO2 narcosis</td>
</tr>
<tr>
<td><strong>Drug-related</strong></td>
<td>Anticholinergic, Antihistamines, Antiarrhythmics (Dig), Antihypertensives, Antidepressants, Antimicrobials (PCN, Ceph, FQs), Antiparkinsonian, Anticonvulsants, Sedative-hypnotic, Sympathomimetics (cough-cold), Steroids, Opiate, Polypharmacy</td>
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Learner mnemonic: “I WATCH DEATH”
DIAGNOSING DELIRIUM

DSM-V Criteria

- A) Disturbance in attention and awareness
- B) Disturbance is ACUTE
- C) Concurrent cognitive impairment
- D) Not evolving dementia, nor coma
- E) Can be explained by Hx/Px/Ix
n=406 adults >65yo

n=50 with delirium meeting DSM criteria

Serial screening with DTS/bCAM by MD

82%SN & 95.8%SP
Delirium Screening

Step 1: Delirium Triage Screen

Rule-out Screen: Highly Sensitive

- Altered Level of Consciousness
  - RASS
    - Yes
      - DTS Positive
        - Confirm with bCAM
    - No
      - Inattention
        - “Can you spell the word ‘LUNCH’ backwards?”
          - >1 errors
            - DTS Negative
              - No Delirium
          - 0 or 1 error
            - DTS Negative
              - No Delirium

Step 2: brief CAM

Confirmation: Highly Specific

- Feature 1 - Altered Mental Status or Fluctuating Course
  - Yes
    - bCAM Negative
      - No Delirium
  - No
    - Feature 2 - Inattention
      - “Can you name the months backwards from December to July?”
        - >1 errors
          - Feature 3 - Altered Level of Consciousness
            - Yes
              - bCAM POSITIVE
                - DELIRIUM PRESENT
            - No
              - bCAM Negative
                - No Delirium
          - 0 or 1 error
            - Feature 3 - Altered Level of Consciousness
              - Yes
                - bCAM POSITIVE
                  - DELIRIUM PRESENT
              - No
                - Feature 4 - Disorganized Thinking
                  - 1) Will a stone float on water?
                    - 2) Are there fish in the sea?
                    - 3) Does one pound weigh more than two pounds?
                    - 4) Can you use a hammer to pound a nail?
                      Command: “Hold up this many fingers” (Hold up two fingers). “Now do the same thing with the other hand” (Do not demonstrate).
                      - Any Errors
                        - bCAM Negative
                          - No Delirium

NB: endorsed by CAEP Geriatric ED Guideline
### Delirium Screening

**Step 1: Richmond Agitation-Sedation Scale**

<table>
<thead>
<tr>
<th>Score</th>
<th>Status</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>+4</td>
<td>Combative</td>
<td>Violent, immediate danger to staff</td>
</tr>
<tr>
<td>+3</td>
<td>Very Agitated</td>
<td>Pulls or removes tube(s) or catheter(s); aggressive</td>
</tr>
<tr>
<td>+2</td>
<td>Agitated</td>
<td>Frequent non-purposeful movement, fights ventilator</td>
</tr>
<tr>
<td>+1</td>
<td>Restless</td>
<td>Anxious, apprehensive but movements not aggressive or vigorous</td>
</tr>
<tr>
<td>0</td>
<td>Alert &amp; calm</td>
<td></td>
</tr>
<tr>
<td>-1</td>
<td>Drowsy</td>
<td>Not fully alert, but has sustained awakening to voice (eye opening &amp; contact ≥ 10 sec)</td>
</tr>
<tr>
<td>-2</td>
<td>Light sedation</td>
<td>Briefly awakens to voice (eye opening &amp; contact &lt; 10 sec)</td>
</tr>
<tr>
<td>-3</td>
<td>Moderate sedation</td>
<td>Movement or eye-opening to voice (but no eye contact)</td>
</tr>
<tr>
<td>-4</td>
<td>Deep sedation</td>
<td>No response to voice, but movement or eye opening to physical stimulation</td>
</tr>
<tr>
<td>-5</td>
<td>Unarousable</td>
<td>No response to voice or physical stimulation</td>
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Managing Delirium

- Treat/remove the underlying cause(s)
- Non-pharmacological
- Pharmacological
MANAGING DELIRIUM

Non-pharmacological Approaches

- Nutritional support
- Optimize hearing/sight
- Maximize day/night/date/time cues
- Minimize pain
- Rehabilitate - ambulate, encourage self-care
- Avoid restraints
Managing Delirium

Pharmacologic Options

- Treat only if distress/ agitated/ safety concern
  - don’t treat hypoactive delirium, wandering, or prophylactically
- monotherapy
- low dose
- short course

CAEP Geri-ED & CCSMH Delirium Guidelines
MANAGING DELIRIUM

Pharmacologic Options - continued

- Benzodiazepines - reserve for withdrawal

- Antipsychotics (APs)
  - Haldol 0.25-0.5mg
  - Risperidone 0.25mg od-bid
  - Olanzapine 1.25-2.5mg/d
  - Quetiapine 12.5-50mg/d

CCSMH Delirium Guidelines, 2014
HOW BAD IS IT?

Results in increases in:

- mortality
  - 16% at 1m
  - 26% at 6m
- hospital LOS
- LTCF transfer
- functional dependence
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WHAT COULD CHANGE

- deliberate screening to increase identification
- identification cues action:
  - hearing aid
  - time-of-day appropriate lighting
  - keep ‘em moving, keep ‘em eating
  - no more anticholinergics!
  - low dose APs, no benzos for agitation
**Take Home Points**

- Delirium is common, esp in elderly
- Significant morbidity/mortality associated
- Brief screening with DTS/bCAM works
- Intervention focus on limiting pathology, normalizing activities, minimizing drugs
- Low dose APs for short period for agitation
THANK YOU! QUESTIONS?