ICU Delirium: We can make a difference!

Denise Kresevic RN Ph. D APN
February 2016
Disclosure

• Dr Kresevic has no actual or potential conflict of interest in relation to this presentation
• Any views or opinions presented are solely those of Dr Kresevic and do not necessarily represent those of the Veterans Administration or University Hospitals
• Acknowledge Dr. Wes Ely resources
Alzheimer

Neuron

Normal Brain Section

Alzheimer's Brain Section

Neurofibrillary Tangles

Amyloid Plaques
Proposed Pathophysiology
Delirium (Pathophysiology)

Proposed Theories

- Neurotransmitters (dopamine; gamma-aminobutyric acid; acetylcholine)
- Alteration in synthesis, release, inactivation resulting in excess dopamine, acetylcholine depletion
- Additional Neurotransmitter imbalances: serotonin imbalance, endorphin hyperfunction, increased noradrenergic activity
So What’s the big deal

• Delirium is not normal-brain failure
• Not harmless 1/3 never return to baseline
• Meds negatively associated with outcomes
Clinical Practice Guidelines for the Management of Pain, Agitation, and Delirium in Adult Patients in the Intensive Care Unit

Juliana Barr, MD, FCCM; Gilles L. Fraser, PharmD, FCCM; Kathleen Puntillo, RN, PhD, FAAN, FCCM; E. Wesley Ely, MD, MPH, FACP, FCCM; Céline Gelinas, RN, PhD; Joseph F. Dasta, MSc, FCCM, FCCP; Judy E. Davidson, DNP, RN; John W. Devlin, PharmD, FCCM, FCCP; John P. Kress, MD; Aaron M. Joffie, DO; Douglas B. Coursin, MD; Daniel L. Herr, MD, MS, FCCM; Avery Tung, MD; Bryce R. H. Robinson, MD, FACS; Dorrie K. Fontaine, PhD, RN, FAAN; Michael A. Ramsay, MD; Richard R. Riker, MD, FCCM; Curtis N. Sessler, MD, FCCP, FCCM; Brenda Pun, MSN, RN, ACNP; Yoanna Skrobik, MD, FRCP; Roman Jaeschke, MD
Nursing assessment is Key

• RASS
• CAM each shift (don’t miss hypoactive)
• Pain assessment
• Find the causes and treat delirium
• Prevent permanent cognitive impairment
• Prevent deaths
Benzodiazepines

“The irony is that these are the same medications physicians often use to manage agitated or delirious patients. This practice, even if immediately effective in tranquilizing a patient may, in the long run, aggravate and perpetuate the syndrome of delirium.”

<table>
<thead>
<tr>
<th></th>
<th>Depression</th>
<th>Delirium*</th>
<th>Dementia</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General population</strong></td>
<td>Minor depressive symptoms 3-26%</td>
<td>10-15% on admission</td>
<td>5% of 65+ adults 50% of 85+ adults</td>
</tr>
<tr>
<td><strong>Hospitalized patients</strong></td>
<td>Minor depressive symptoms 23%</td>
<td>10-40% in-hospital (new onset)</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>43-61% of hip surgery patients</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>31% of older adults admitted to medical intensive care units</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>83% of mechanically ventilated patients (all ages)</td>
<td></td>
</tr>
<tr>
<td>Depression + dementia 22-54%</td>
<td>Delirium + dementia 22-89%</td>
<td>Dementia</td>
<td></td>
</tr>
</tbody>
</table>
Causes of Delirium

- Opioid toxicity can cause delirium but in hip-surgery patients delirium is nine times more frequent if their post-operative pain is undertreated (Morrison et al, 2003).
- Sleep deprivation
- Electrolyte imbalance
- Use of physical restraints
- Visual or hearing deficits
- History of stroke, HF, epilepsy, renal failure, liver disease, HIV, dementia
Delirium Risk Factors

Predisposing

• Age 75 & older
• Co-morbid conditions
• ETOH history
• Orthopedic surgery
• >5 medications
• History of dementia
• Functional impairments
• Sensory deficits—hearing, vision loss
• Inactivity
Delirium: other names...

- Metabolic encephalopathy
- Acute organic brain syndrome
- Acute confusional state
- ICU psychosis: treated as normal occurrence in ICU
- Psychosis
- Sundowning
- Cerebral insufficiency
- Post-partum psychosis
Delirium: DSM5

• Disturbance of attention,
• develops over short time,
• change from baseline,
• accompanied by changes in cognitive domain, such as memory, disorientation, language, perception, that cannot be accounted for by pre-existing or other neurocognitive disorders;
• occurs in context of severely reduced level of arousal

APA, 2013
Delirium, Dementia or BOTH


2. 22-89% of delirium cases are superimposed on dementia (Fick et al. J Am Geriatr Soc. 2002)

3. 60% of patients who experience delirium while hospitalized develop dementia (Witlox et al. JAMA. 2010)

4. Patients with delirium and dementia with “neuropsychiatric symptoms” have similar poor outcomes (Holtta et al. Am J Geriatr Psychiatry. 2011)
Confusion Assessment Method for the ICU (CAM-ICU) Flowsheet

1. Acute Change or Fluctuating Course of Mental Status:
   - Is there an acute change from mental status baseline? **OR**
   - Has the patient’s mental status fluctuated during the past 24 hours?

2. Inattention:
   - “Squeeze my hand when I say the letter ‘A’.”
   - Read the following sequence of letters:
     S A V E A H A R T or C A S A B L A N C A or A B A D B A D A A Y
     ERRORS: No squeeze with ‘A’ & Squeeze on letter other than ‘A’
   - If unable to complete Letters → Pictures

3. Altered Level of Consciousness
   - Current RASS level

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?
   - 4. Can you use a hammer to pound a nail?

   Command: “Hold up this many fingers” (Hold up 2 fingers)
   “Now do the same thing with the other hand” (Do not demonstrate)
   **OR** “Add one more finger” (If patient unable to move both arms)

Copyright © 2002, E. Wesley Ely, MD, MPH and Vanderbilt University, all rights reserved
ABCDEF Bundle

- A Assess manage pain
- B Both spontaneous breathing and awakenings
- C Choice of analgesia and sedation
- D Delirium assessment
- E Early Mobility
- F Family engagement
Interdisciplinary Rounds

- Face to Face Bedside rounds are invaluable, especially with the night nurse
- What is the RASS, is this where we want it
- What has the CAM been for the last 24 hours
- What medications Have we addressed pain,
- Is the family present
- Mobility plan of care
Managing Delirium

lots nurses can do

• Engage family: liberal visitation
• OOB

• Music
• Restraint alternatives-Busy boards, purse
• Clocks/ Calendar/ Assistive Devices
• Pain programs/ Constipation
Cares  Distraction Supplies

• Restraint alternatives - Busy boards, fishing vests, puzzles, stress balls
• CD’s for music
• DVD’s for movies
• Early Mobilization
• Assistive Devices, hearing amplifiers, magnifying glasses
• Prism glasses