Cognitive Impairment in the Older Patient in the ED

Don Melady
Mount Sinai Hospital
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Delirium

Dementia

Depression

Objectives

At the end of this session you should be able to:

1. Use one screening tool for each of delirium, dementia, and depression;
2. List the most common causes of delirium in the elderly;
3. Describe how delirium in the elderly is different from that in younger patients;
4. Name two components of managing delirium and one pharmacological management of symptoms;
5. Argue for the importance of dementia as an ED diagnosis

3 cases

All ICU-bound

Case #1

82 year old woman with dysuria

- Vague about her symptoms though gives a good account of previous health problems
- Unkempt though otherwise normal physical exam
- WBCs/bacteria in urine
- Discharge home with diagnosis of UTI and prescription for ciprofloxacin

Case #1

- Next day culture comes back positive for E. coli resistant to ciprofloxacin
- Patient can't be contacted because she gave an incorrect phone number
- Patient returns two days later with urosepsis and admission to ICU; script is still in her purse

What could have been done differently?

Case #2

77 year old man with knee pain

- In ED after falling at home: no apparent prodromal symptoms
- Wife says not his usual self for “a while” with significant memory loss for two years
- Physical exam and knee X-rays norm
- Home: diagnosis of early dementia/soft tissue injury and treatment for pain (T 2s)

Case #2

– Back in two days with multiple falls, vomiting and severe confusion/sedation. CT shows subdural hemorrhage acute on chronic

What could have been done differently?

Case #3

79 year old man multiple vague complaints

- generalized pain, weakness, headache, poor sleep
- His wife says, “this is the fourth time we’ve been in ED in a month – and the family doctor every week!” “it’s all in his head”
- On exam seems anxious but normal physical exam and basic lab investigations

  same as last week)
- Discharge diagnosis: anxiety
- Treatment: reassurance and

  lorazepam

Case #3

- Back that night with a mixed overdose of all his and his wife's medications leading to an ICU admission
- Subsequently treated for depression and did well

What could have been done differently?

QUIZ

Main message from quiz

1. “Delirium NYD” is NOT a discharge diagnosis!

2. Dementia is common.

3. Delirium is a disorder of attention.

What is delirium?

Delirium

- What is your “man on the street” definition of delirium?

- What are the essential components of it?

DSM-IV diagnosis

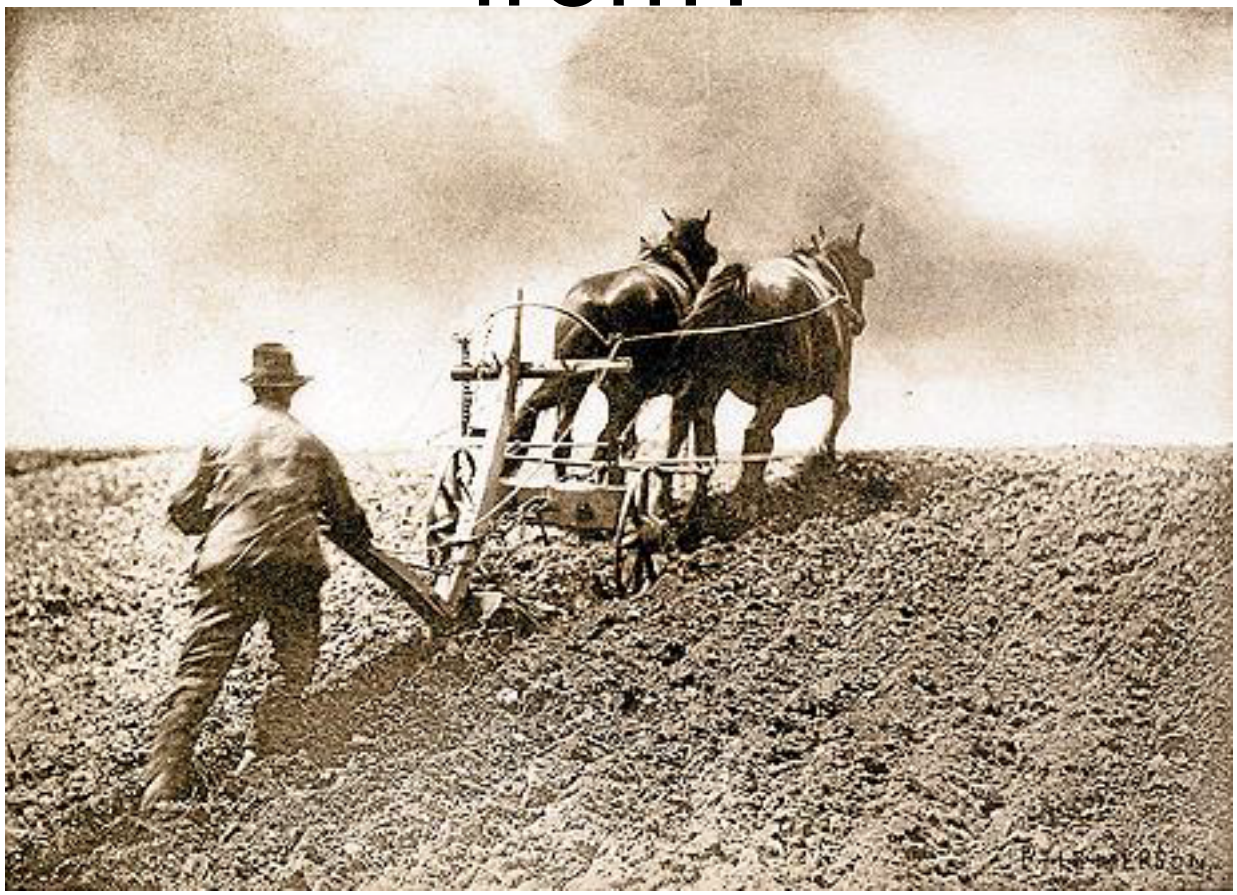
Disturbance of consciousness with reduced ability to focus, sustain, or shift attention

Change in cognition that is not better accounted for by a pre-existing, established, or evolving dementia

Development over a short period of time (usually hours to days) and disturbance tends to fluctuate during the course of the day

There is evidence from the history, physical exam, or lab findings that the disturbance is caused by the consequences of a general medical condition.

Where does the word come from?



“lira” Latin for furrow

“lirare” = to plough a furrow

“delirare” = to jump out of the furrow you’re ploughing

Delirium is
the state of being
out of your furrow!

How good are emergency physicians at diagnosing delirium?

- Unrecognized delirium in ED geriatric patients
  LM Lewis et al. AJEM 1995; 13:142

- Prevalence and detection of delirium in elderly ED patients
  M Elie et al. CMAJ 2000; 163 (8):977-81

- Delirium in Older ED Patients: Recognition, Risk Factors and Psychomotor Subtypes
  Han et al. Acad Emerg Med 2009; 16:193-200

Main message

- Prevalence of delirium in older patients presenting to the ED is approx 10%;
- Our current practice and conventional work up of those patients are not sensitive in detecting delirium – about one-third;
- Vast majority of delirious older patients presented to the ED with the hypoactive subtype

Barriers to better identification

- Lack of knowledge of diagnostic criteria
- Atypical presentation in the elderly
- Limited use of standard screening tools
- Delirium sub-types
- Fluctuation in symptoms

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Main message

- Older emergency department patients with delirium have a higher mortality rate even after adjusting for age, dementia, co-morbidities, severity of illness
- Patients with undiagnosed delirium are at greatest risk
- Delirium in older patients looks different

How do we diagnose delirium?

- Does this patient have delirium?: Value of bedside instruments
  Wong et al. JAMA 2010 303(7): 779
- Evaluation of the CAM as a screening tool for delirium in the ER
  Monette et al. Gen Hosp Psych 2001; 23:20
- Clarifying confusion: The Confusion Assessment Method
  Inouye et al. Ann Int Med 1990; 113:941-48

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Confusion Assessment Method (CAM)

To make the diagnosis:

MUST!

- **Feature 1: Acute onset & fluctuating course**
- **Feature 2: Inattention**

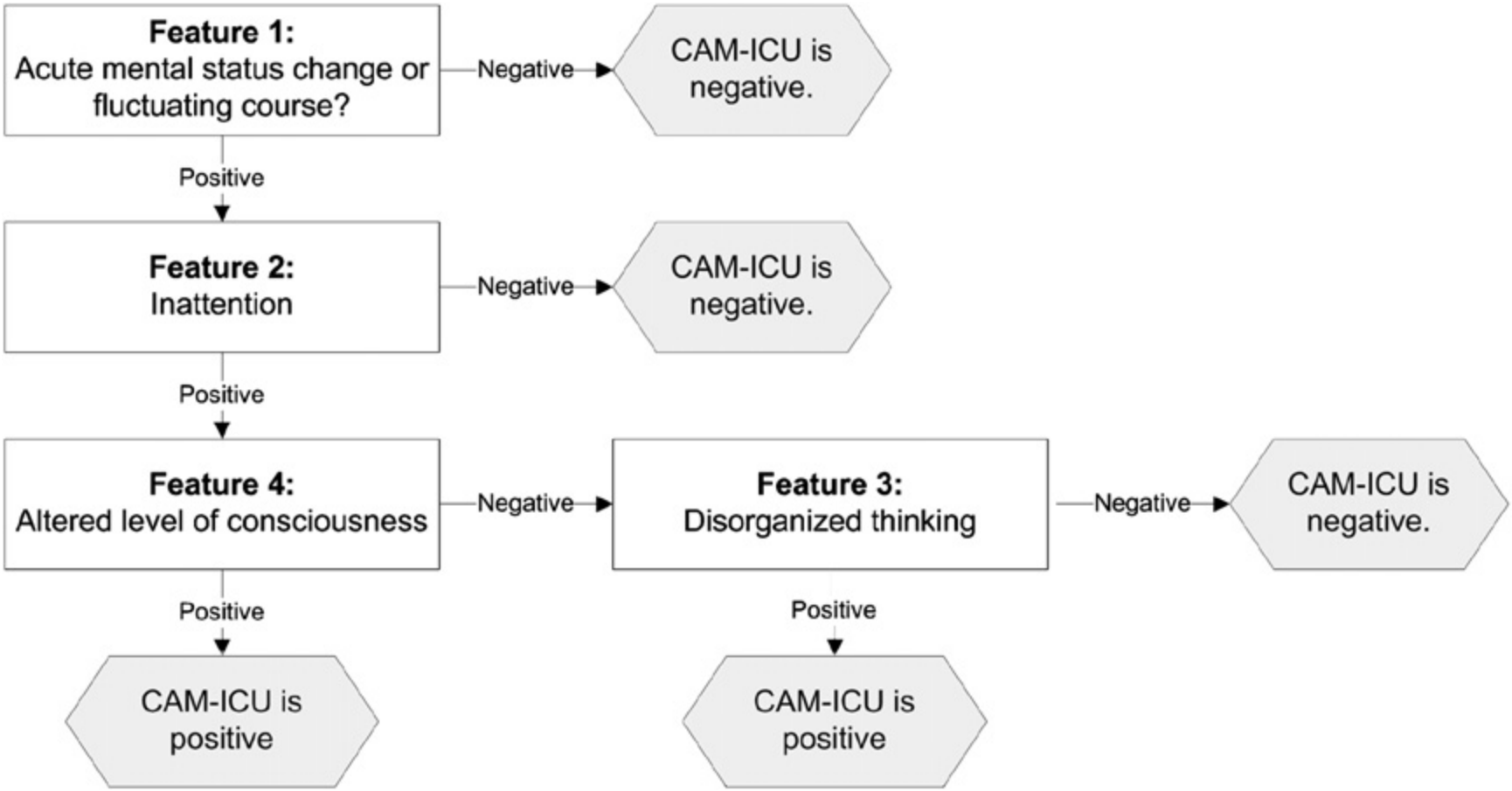
+

ONE OR BOTH

- **Feature 3: Disorganized thinking**
- **Feature 4: Altered level of awareness**

(Sharon Inouye, 1990)

CAM-ICU



Han et al, EM Clin NA, 2010

CAM this patient

- 85-year-old man with non–small cell lung cancer presents with cough and fever living independently in the community.
- His daughter says he did not sleep last night and was pacing in his home.
- In the ED he was startled when you walked in but then drifted off during your history; his daughter says, "This is not like my father. He never behaves this way!"

Common etiologies of delirium

- Systemic diseases
  - Infections (lung, urinary, skin), acute MI, CHF, arrhythmia, cardiogenic shock, acute or chronic respiratory failure, uremia, hepatic encephalopathy, fluid/electrolyte abnormalities (hypernatremia, hypoglycemia, hyper/hypocalcemia)
- Primary CNS disease
  - CVA, subdural hematoma, encephalitis, meningitis, seizures (nonconvulsive status, postictal), hypertensive encephalopathy
- Medications
  - Anticholinergic, antihistamines, antiemetics, antiparkinsonian, antispasmodics
- Withdrawal
  - Alcohol, sedative hypnotics, accidental or intentional discontinuation of other medications

In short . . .

Infection (PUS)

Medications (new, change, unknown)

Intra-cerebral event

Any medical condition

Treatment of Delirium

The treatment of delirium
is the identification and treatment
of the *underlying* cause
while maintaining safety and comfort

Treatment of Symptoms of Delirium

Non-pharmacologic management

minimize new psychoactive medications (eg. Gravol); promote mobility (d/c the Foley, the unnecessary sat and cardiac monitor); feed the patient; talk to the patient; hydrate the patient; frequent re-orientation

Pharmacologic management for severe agitation that prevents therapy

or puts the patient or others at risk

Management of Agitation Associated with Delirium

Haloperidol

0.5-2.5 mg PO/IM/IV

0.5-2.0 mg po q4-6h will often suffice

(you can put more in; you can't take it out!)

Dementia in the ED

How do you know
if someone has dementia?
And why does it matter?

Mr Crossword Puzzle

DSM-IV diagnosis

Short-term memory loss

AND Functional impairment

AND one of:

1. Loss of executive functioning (planning, problem-solving, judgement, abstraction) or
2. Apraxia or
3. Agnosia or
4. Aphasia

Important?

- 1 in 8 people at age 70 have some degree of dementia;
- 1 in 4 at age 80;
- 1 in 2 at age >90;

Fewer than 30% of people found in the ED to have a dementia had a previously established diagnosis.

Wilber, EM Clin of NA, 24(2): 299-316(2006);Hustey, Ann EM, 41(5): 678-84 (2003)

Folstein MMSE: Gold standard (~10 minutes)

O RIENTATION (10)

R EGISTRATION (3)

R ECALL (3)

A TTENTION /

C ALCULATION (5)

L ANGUAGE (9)

E

Score out of 30: < 24 is impaired

Practical alternatives for ED screening?

An evaluation of two screening tools for cognitive impairment in the older ED patients

Scott Wilber et al, AEM, July 2005, (12) 612-617

Mini-Cog vs. Six-Item Screener

Mini-Cog
(< 45 seconds)

Register three items

Draw a clock face with hands at 10 to 2

Recall the three items

Mini-Cog Scoring

1 point for each recalled word after the CDT

Possible Score: 0–3

0 indicates positive screen for dementia.

1 or 2 with an abnormal CDT indicates positive screen for dementia.

1 or 2 with a normal CDT indicates negative screen for dementia.

3 indicates negative screen for dementia

Six-Item Screener

- Register three items.
- What year is it?
- What month is it?
- What day of the week is it?
- Recall three items.

Impaired = <5

Callahan, Med Care, 2002 (40) 771-781

Short Blessed Test

- What year is it?
- What month is it?
- What time is it? (within an hour)
- Register and recall an address.
- Count backwards from 20.
- Months of the year in reverse.

Ottawa 3DY

- What is the **D**ay of the week?
- Spell WORL**D** backwards
- What is the **D**ate?
- What is the **Y**ear?

Positive screen = <4

Molnar and Wells, 2008 Clinical Medicine: Geriatrics,(2008) 2: 1-11

Sweet 16

- Eight points for orientation
- Three points for registration
- Four digit spans (first two are for learning)
- Three points for recall

Impaired = < 14

Fong , Arch Int Med, 2010

Take home message

1. Dementia is a common disease relevant to ED assessment and disposition.

2. Do ***something*** to find it.

Depression

Atypical

High-risk

Treatable

Emergency Department Depression Screening Instrument:

Do you often feel sad or depressed?

Do you often feel helpless?

Do you often feel down-hearted or blue?

A “yes” response to any of the questions is a positive screen for depression.

Fabacher et al, AJEM, 2002(20) 99-102

In conclusion . . .

If you don’t look for something . . .

you won’t find it.

If you don’t know what you’re looking for . . . you won’t find it.

If you don’t know what it looks like . . .

you really won’t find it!

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References

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Lewis LM, Miller DK, Morley JE, et al. “Unrecognized Delirium in ED Geriatric Patients” American Journal of Emergency Medicine 13(2): 142-5 (Mar 1995)

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