Acute presentations in older people - Assessing frail elderly patients

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Aims and objectives

• Knowledge
  – Non-specific presentation of disease to acute services
  – Assessment; identifying frail older patients
    • Cognitive impairment (delirium and dementia)
    • Loss of mobility / falls
    • Loss of swallow
  – Multi-morbidity

• Skills
  – Interpret results of basic assessment
    • Cognition, mobility, swallow

• Attitudes
  – Positive / realistic attitude to value of acute care for frail older people
What is special about presentation of disease in older people?

- Non-specific presentation
- Multimorbidity
- Iatrogenesis

“Remember when shake, rattle and roll meant more than just getting out of bed?”
Geriatric Giants – non-specific presentation of disease

- Intellectual impairment (delirium and dementia)
- Immobility (‘off feet’)
- Instability (falls)
- Incontinence
- (Loss of swallow)
Case presentation, 85yrs female – ‘traditional’ assessment

- Vague historian
- Social admission – not coping at home
- PMH
  - MI, # femur
- Drugs – unclear
- Lives alone
Case presentation, 85yrs female

- Cognitively slow
  - responds simple motor commands
  - 2/4 on AMT4
- Surrogate history (relative)
  - 1 week deterioration
    mobility, assistance to
    transfer / walk, confusion
  - Fall out of bed
  - Urinary incontinence
- PMH
  - MI, # femur, depression
  - Deaf, hearing aids
  - Short-sighted, glasses
- Drugs
  - 10 on prescription
- FH/SH
  - Lives alone, home help daily
Observations / basic investigations

- Temp 38.5°C
- BP 112/70 lying, 90/68 standing
- Crackles right lung base
- Skin intact
- Failed water swallow test

- Na 118 mmol/L
- Urea 15.2 mmol/L
- WBC 24.9 *10^9/L
- CRP 250
- Blood cultures
Prescription drugs pre-admission

Amlodipine
Aspirin
Bendroflumethiazide
Ca / vitamin D
Fluoxetine
Furosemide
Ibuprofen
Lactulose
Ramipril
Simvastatin

Would you?

a) Continue all
b) Stop bendroflumethiazide
c) Stop ibuprofen
d) Stop all except aspirin
e) Stop all
Why stop all these drugs?

- She can’t swallow!
- Instability / immobility / intellectual impairment
  - Postural hypotension
    - Bfz, amlod, ram, furos, fluox
  - Hyponatraemia
    - Bfz, furos, fluox
  - Dehydration / renal impairment
    - Furos, ramipril, ibuprofen
- Incontinence
  - Furos
- Irrelevant treatment
  - Simva, lactulose
Problem solving in complex case

Problems
- Non-specific presentation
  - Delirium
  - Immobile / fall
  - Unable to swallow
  - Incontinence
- Physiological
  - Renal impairment
  - Fever
  - Postural hypotension
  - Hyponatraemia
- Major acute pathology
  - Pneumonia
- Co-morbidity
  - IHD, osteoporosis
  - Sensory (hearing / vision) impairment
  - 10 prescription drugs

Acute care
- Stop all oral medicines
- IV augmentin / clarithromycin
- IV fluids
- Rectal paracetamol
- Prophylactic LMW heparin
  - (reduced dose)
- Hearing aid, glasses
- Transfer to comprehensive geriatric assessment and rehabilitation
Rapid access to investigations

- Blood tests
  - U&Es, BS, Ca, LFTs, CRP, FBC
  - Troponin
- Microbiology
  - Blood, urine, sputum culture
- Imaging
  - CxR
  - CT brain scan
- 12-lead ECG
Presentation of acute myocardial infarction in older people

- Acute confusion
- Collapse / fall
- New immobility
- Breathlessness
- Chest pain

Evolution of Acute MI
Does this older person understand me?

I asked you a question buddy!
Testing comprehension

- Single stage motor commands
  - Show me your tongue

- 2 or 3-stage motor commands
  - Take this paper in your left hand, fold it in half, and hand it back to me (put it on the floor/table)

Causes of impairment
- Reduced conscious level
- Deafness
- Depression
- Dysphasia
- Resistive / non-cooperative
- Severe delirium / dementia
- Motor deficit (weakness, pain)
Is this older person confused?

- Recognition
- Diagnosis
- Delirium
- Dementia
- Prevention
- Treatment
Confusion assessment method (CAM) criteria for delirium

1. Acute change in mental status
2. Inattention (fluctuation)
3. Disorganised thinking
4. Altered level of consciousness

Delirium requires $1 + 2 + (3 \text{ or } 4)$
Diagnostic criteria for dementia (DSM IV)

- Impaired short and long-term memory
- At least two of: impaired abstract thinking, poor judgement, dysphasia / dyspraxia / agnosia, personality change
- Interferes with work or social activities
- No delirium
- Identified organic cause / no non-organic mental disorder
Screening for cognitive impairment in A&E

- 601 patients ≥65yrs
- 38% scored ≤ 23/30 on MMSE
- Cutoff of ≤3 for AMT4
  - sensitivity 80 (75-85)%
  - specificity 88 (84-91)%
- Cutoff ≤7 for AMT10
  - sensitivity 76 (69-81)%
  - specificity 93 (90-96)%
- Subjective judgment of admitting nurse
  - sensitivity 51 (44-57)%
  - specificity 99 (96-100)%

Schofield, Stott; EuJEmMed 2010
4-point Abbreviated Mental Test (AMT4)

1. what year are we in?
2. what do we call this place you are in?
3. how old are you?
4. what is your date of birth?
Reasons older people score badly on formal cognitive testing

- Cognitive impairment
  - Delirium
  - Dementia
- Deafness
- Dysphasia
- Depression
- Reduced conscious level
- Resistiveness
# Glasgow Coma Scale

<table>
<thead>
<tr>
<th>Response</th>
<th>Score</th>
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<tbody>
<tr>
<td><strong>Eye opening</strong></td>
<td></td>
</tr>
<tr>
<td>Opens eyes spontaneously</td>
<td>4</td>
</tr>
<tr>
<td>Opens eyes in response to speech</td>
<td>3</td>
</tr>
<tr>
<td>Open eyes in response to painful stimulation (eg, endotracheal suctioning)</td>
<td>2</td>
</tr>
<tr>
<td>Does not open eyes in response to any stimulation</td>
<td>1</td>
</tr>
<tr>
<td><strong>Motor response</strong></td>
<td></td>
</tr>
<tr>
<td>Follows commands</td>
<td>6</td>
</tr>
<tr>
<td>Makes localized movement in response to painful stimulation</td>
<td>5</td>
</tr>
<tr>
<td>Makes nonpurposeful movement in response to noxious stimulation</td>
<td>4</td>
</tr>
<tr>
<td>Flexes upper extremities/extends lower extremities in response to pain</td>
<td>3</td>
</tr>
<tr>
<td>Extends all extremities in response to pain</td>
<td>2</td>
</tr>
<tr>
<td>Makes no response to noxious stimuli</td>
<td>1</td>
</tr>
<tr>
<td><strong>Verbal response</strong></td>
<td></td>
</tr>
<tr>
<td>Is oriented to person, place, and time</td>
<td>5</td>
</tr>
<tr>
<td>Converses, may be confused</td>
<td>4</td>
</tr>
<tr>
<td>Replies with inappropriate words</td>
<td>3</td>
</tr>
<tr>
<td>Makes incomprehensible sounds</td>
<td>2</td>
</tr>
<tr>
<td>Makes no response</td>
<td>1</td>
</tr>
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</table>
Is this older person ‘off their feet’?

As soon as the owner’s back was turned, Bob tried to ride off without paying.
Assessing mobility

• History (patient / surrogate) – current and usual status
  – Bed / chair transfers, walking
  – Independent / personal assistance (eg 1 or 2 people)
  – Aids (Zimmer, stick etc)

• Examination
  – Transfers (bed / chair, gait)
  – Usual walking aid
Is this older person a faller?
Multifactorial falls risk assessment for older people attending A&E

- Fall, recurrent falls in the past year, or abnormalities of gait / balance
- Multi-factorial falls risk assessment performed by healthcare professionals with appropriate skills and experience, normally in specialist falls service
- Individualised multi-factorial intervention
Can this older person swallow?

A. BACALL

“Can I get an order of fries with that?”
Systemic precipitants - loss of swallow

- Delirium / reduced conscious level
  - Dehydration / metabolic disturbance
  - Sepsis
  - Drugs
- Nausea / anorexia
- GI obstruction
  - Faecal impaction
  - Malignant
  - Ileus
Swallowing assessment in the frail or dependent older person

‘Bedside’ assessment in the emergency room

- Look in the mouth
- Water swallow test
  - Teaspoons of water
  - 50mls (half-cup)
  - Inappropriate if patient not responding accurately to simple motor commands eg drowsy

High risk of aspiration / inability to maintain fluid balance by oral intake

- Poor lip seal
- Delay in initiating swallow
- Poor laryngeal elevation
- Coughing / spluttering / change in voice quality
Does this older person have multiple co-morbidities?
Methods of assessing multi-morbidity

- Medicine count
- Charlson co-morbidity index
- Cumulative illness rating scale
- Index of co-existing disease
- Kaplan index
Would this older person be likely to benefit from comprehensive geriatric assessment?
Comprehensive geriatric assessment; in-patient care

• Systematic review and meta-analysis; 5 RCTS
• Frail older people acute medical disorders
• Acute geriatric units versus conventional care
  – lower risk of functional decline at discharge
    • OR 0.82 (0.68 to 0.99)
  – more likely at home after discharge
    • OR 1.30 (1.11 to 1.52)
  – no differences in case fatality
    • OR 0.83 (0.60 to 1.14)
What’s special about geriatric medical care?
Targeted intervention protocols

**Relevant for acute care**
- Active hydration
- Early mobilisation / avoidance of restraint
- Orientation
- Vision
- Hearing

**Rehabilitation / ongoing care**
- Therapeutic activities
- Sleep
  - non-pharmacological individual approach
Controlled trial - reference

• A multi-component intervention to prevent delirium in hospitalized older patients
• Inouye et. al.
• NEJM 1999;340:669-676
<table>
<thead>
<tr>
<th>Study outcome</th>
<th>Intervention (426)</th>
<th>Control (426)</th>
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<tr>
<td>Incident delirium</td>
<td>9.9%</td>
<td>15.0%</td>
</tr>
<tr>
<td></td>
<td>p=0.02</td>
<td></td>
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<tr>
<td>Days of delirium</td>
<td>105</td>
<td>161</td>
</tr>
<tr>
<td></td>
<td>p=0.03</td>
<td></td>
</tr>
<tr>
<td>Episodes delirium</td>
<td>62</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>p=0.03</td>
<td></td>
</tr>
<tr>
<td>Delirium severity</td>
<td>3.85 (SD 1.27)</td>
<td>3.52 (1.44)</td>
</tr>
<tr>
<td></td>
<td>n.s.</td>
<td></td>
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Community-based CGA

- Randomised controlled trials of community-based multifactorial interventions
- 89 trials including 97,984 people
- Reduced nursing home admissions RR=0.87 (95%CI 0.83,0.90)
- Death RR=1.00 (95%CI 0.97,1.02)

Beswick, Lancet 2008; 371: 725
Summary – assessment of the older patient in A&E

Things to do

- Test comprehension / cognition
  - Simple motor commands, AMT4
  - Surrogate history if a problem
- Identify immobility / fallers
- Water swallow test
- Medical investigation
- Hearing aid / glasses
- Provide fluids
- Start active medical Rx asap
- Stop harmful Rx asap
- Early triage
  - Inpatient / outpatient CGA
  - Monopathy to organ specialist

Things to avoid

- Trying to take detailed history from patient with communication impairment
- Nil by mouth when swallow safe
- Triage to inappropriate inpatient environment
- Discharge frail older patient without offering outpatient comprehensive geriatric assessment
Recommended reading

Urgent Care Pathways for Older People with Complex Needs

Best Practice Guidance

Modern Standards and Service Models

Older People

National Service Framework for Older People