Sedation in the Elderly and Review after a fall

ISLHD Falls Forum

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Falls in the elderly

- 30-40% of >65yrs fall each year in the community
- 50% will fall recurrently
- > incidence in NH / RH / hospitals
- 10-25% result in # or laceration
- falls related injuries → 6% all medical expenses in over 65yrs in USA
- unintentional injuries = 5th leading cause of death in older people
Post #

- 1/3rd die
- 1/3rd enter long term care settings
- most suffer some loss of independence
- 80% would rather be dead than suffer this loss of independence

\(^1\text{Salkeld G, Cameron I et al,}
\text{Quality of life related to fear of falling and hip fracture in older women: a time trade off study,}
\text{BMJ 2000; 320(7231):341-6}\)
ED – Falls presentations

Falls account for around 20% of all ED presentations among people aged 65 years and over. Half of all older people presenting to ED with a fall are discharged home.

These people are at high risk of:
- Future falls
- Depression
- Functional decline

…within 6 months of discharge from ED.
Risk factors for falls

- Undernutrition*
- Muscle weakness
- Inadequate sunlight exposure
- Previous falls
- Gait deficit
- Balance deficit
- Use of aid
- Visual impairment

- Arthritis
- Impaired ADL
- Depression
- Cognitive impairment
- Age > 80yrs
- Multiple medications
Why Falls in Hospital for older persons?

- Significant harm to patients
- Many falls are preventable
- Risk of harm from falls increases with:
  - Age and co-morbidities
  - Medications
  - Reducing cognitive function
- In 2016, there were 38 SAC1 and 458 SAC 2 falls across NSW

**ISLHD Data**

- NSW Falls prevention program for last 12 years
- Remains unwarranted variation in clinical practice and outcomes
- Aim 5% reduction in hospital fall related serious harm in ≥70 years 17-18
Why does nutrition matter?

- Less muscle bulk
- Less padding
- Type II fibres show atrophy in vitamin D deficiency
- VDR found in skeletal muscle cells
- Influences calcium uptake
  - PO4 transport
  - Phospholipids metabolism
  - Cell proliferation and differentiation
  - Immunosuppression
Background

- World over we know that institutionalised elderly are undernourished frequently (20 to 50%)
- Hospitalisation is associated with further nutritional decline (70%)
- Falls is associated with poor nutritional state and is more common in Vit D deficiency
- Fractures more common in undernourished
increase protein and energy intake in hospital prevents nutritional decline and is associated with improved mortality

Oral nutritional supplements in hospital can improve nutritional intake (Annals of Internal Medicine 2006)

“Family style” meals may improve intake in RACF and improve QOL

Supplements not proven post hip fracture (A Avenell and HHG Handoll The Cochrane Database of Systematic Reviews 2006 Issue 1)

NG and Peg remain uncertain in effect and safety
Examination as doctor must include

- Postural BP (even lying sitting)
- Gait analysis
- CNS review
- Medication review
  - Might be
    - cerebrovascular disease
    - Parkinson’s disease
    - proximal myopathy
    - Rombergs test
    - arthritis
    - neck movements
    - Murmurs
Follow Up After Discharge

- Acute Geriatrics Outpatient Clinic
- Further detailed Investigation
- Falls clinic Patient reduced risk of falls
- Projected reduction in presentations to ED
- Increasing community options exercise and balance classes
Falls Clinic

- **Medical Assessment**
  - history & examination incl. AMT
  - osteoporosis risk
  - falls risk
  - bloods, Xray, ECG, other lxs

- **Nursing Assessment**
  - lying / standing BP
  - visual acuity
  - BMI

- **OT**
  - HAV

- **PT**
  - EMS
  - Tinetti
Exercise

- McMurdoo-
  - Exercise improves depression
  - Exercise increases BMD
  - Exercise reduces falls

- Tinetti-
  - Exercise improves muscle strength
  - Exercise reduces falls and injury

- Lord-
  - Group exercise reduced falls
  - Group exercise maintained physical function
## Results

<table>
<thead>
<tr>
<th></th>
<th>Clinic attendees</th>
<th>Clinic non acceptances</th>
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</thead>
<tbody>
<tr>
<td>Unplanned admissions</td>
<td>10.3%</td>
<td>23.7%</td>
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<tr>
<td>ED presentations</td>
<td>12.8%</td>
<td>39.5%</td>
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<tr>
<td>Medications changed</td>
<td>42%</td>
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<tr>
<td>Further referrals made</td>
<td>39%</td>
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Clinical problems associated with Dementia

- Behavioural Psychological Signs Symptoms Dementia
  - BPSSD
- Neuropsychiatric symptoms in 60 – 98% of demented
- These cause more distress to carers than the memory loss or cognitive functional loss
- Medications often used increase falls
- Strong predictors of institutionalization and of death
- Strong association with elder abuse (both of patient and of carer)
BPSSD

- Agitation
- Aggression
- Delusions and hallucinations
- Repetitive vocalizations
- Wandering
- Screaming
- Others
Alternative causes of BPSSD

- Intercurrent Illness
  - Any physical – MI, visual change, constipation
  - Any psychological
- Medication change
- Alcohol or Benzo. withdrawal
- Pain
- Grief
Delirium — acute fluctuating mental disorder with impaired consciousness, alertness and global impairment of cognition.

- Common in hospitalized elderly 45-60%
- Often first clue of underlying cognitive impairment
- Vulnerability high = minor precipitant
- Longer lengths of stay, higher morbidity (iatrogenic, falls, chest infections etc), Increased cost of care
- Worse outcomes and frequent non recovery
Assessing cause of BPSSD

- make sure its not delirium or new problem

- Full physical assessment
  - ECG, troponin, pyrexia, o2sats,

- Exclude metabolic problem

- Explore mood

- Look at recent routines and changes

- Identify triggers

- Involve carers
Ongoing care if behaviour modifying treatments are used

- RCT show that 45% to 70% of NH residents receiving antipsychotics can be safely withdrawn with no adverse consequences.
- Frequent review of medications and confounders needed.
- Given risks of stroke and TIA short duration may be important.
Conclusions

- BPSSD are very common.
- They tend to follow in the later half of the disease progression but dominate the quality of life of the patient and carers, both family and professionals.
- Best managed by close analysis and careful trials of various behavioural strategies. Family members can give crucial insights to what behaviours mean.
- Drug therapy is not usually very helpful and often causes more problems.
10. APPENDIX 1 - Flowchart

Medical assessment of possible physical causes and treat as appropriate, e.g. *BSL, O2 sats, temperature, alcohol or iatrogenic problem, clinical examination:

**Is Patient:**

- Displaying psychotic features e.g. Hallucinations, delusions
- Only noisy or wandering
- Not psychotic but displaying fear, anxiety, pain; if alcohol withdrawal start local AWS protocol

Attempt to settle by modifying environment, family contact, one to one nursing. If settles start behaviour modification log and alert CNC dementia or aged care next day.

**If not:**

- Psychosis and no history of Lewy body dementia or Parkinsonism
- Psychosis and history of LBD or Parkinsonism
- No Psychosis

If settles
- Start behaviour log #
- Alert CNC dementia or aged care
- Chart vital signs and no oral intake while sedated
- BSL *if abnormal
- Resp rate
- BP
- O2 sats
- GCS

**Attempt oral medication**
- **Haloperidol 500 micrograms**
- Non compliant or Not effective
- **Haloperidol 500 micrograms to 1mg IM** Only if threat to self or others Max dose 3mg
- Not effective

**Lorazepam 0.5mg – 1mg, can be repeated after 1 hour (max dose 3mg)**

**Non-compliant or not effective**

**Very Low Dose**
- **Midazolam 1 mg IM** Only if threat to self or others
- Not effective

**These doses can be repeated after 1 hour for a maximum of 3 hourly. If you have reached 3mg of any of these medications, call for Senior Medical assistance **
Summary

- Good nutrition key in maintaining mobility
- Vitamin D may reduce falls in older people
- Exercise helps all groups
- Comprehensive assessment needed – why are people falling
- Fall might mean illness
- Covert presentation in elderly
- Care in treating confusion and BPSSD won't solve BPSSD will cause fall
ISLHD – Osteoporosis Refracture Prevention Service

Based at Port Kembla Hospital and Shoalhaven District Memorial Hospital

- **Aim**: decrease repeat fractures in patient with unidentified osteoporosis
- **Inclusion**: >50yrs minimal trauma fracture (fall, slip, trip from standing height), and > 40yrs Aboriginal and Torres Strait islander people
- **Exclusion**: MVA/trauma/fall from height
- Usual care for minimal trauma fracture, before being discharged from hospital care is investigation of bone health

The service provides:

- DEXA bone mineral density scanning (have ceiling hoist for wheelchair bound patients to access) – Port Kembla Hospital
- Education Osteoporosis risk factors and falls
- Review by specialist doctor
- Development of a personalised management plan
- Self management of Chronic Disease
- Referrals to other services as required.
Falls Research

- Frailty Assessment in Elderly: A systematic review of quantitative assessment methods and clinical approaches – Yasmeen Panhwar – submitted for publication


- Both PhD students – Gait Analysis for older people.
Four Main Action Plans

- Screen and identify frailty early
- Early Comprehensive Geriatric Assessment
- Discharge to Assess
- Proactive case management of inpatients to minimise deconditioning
If you had 1000 days left to live, how many would you choose to spend in hospital?

- 48% of people over 85 die within one year of hospital admission\(^1\)
- 10 days in a hospital bed (acute or community) leads to the equivalent of 10 years ageing in the muscles of people over 80\(^2\)

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1 Imminence of death among hospital inpatients: Prevalent cohort study
David Clark, Matthew Armstrong, Ananda Allan, Fiona Graham, Andrew Carnon and Christopher Isles, published online 17 March 2014 Palliat Med