Analgesia use among hip fracture repair patients with dementia compared to patients who are cognitively intact

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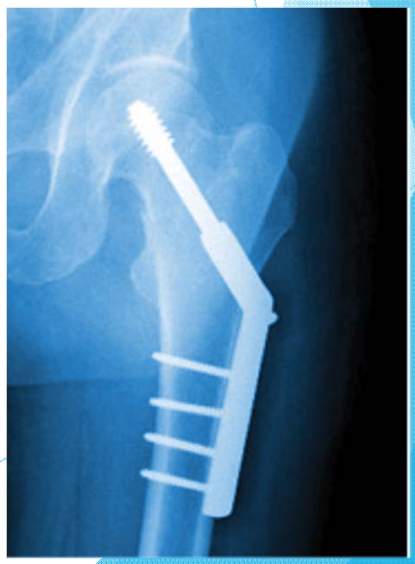

Hip fracture making headlines

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Hip fracture often deadly, Australian study shows

Older individuals with hip fracture are more than 3.5 times more likely to die within 12 months compared to non-injured; mortality higher in men than in women

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Hip fracture is a major public health problem, associated with high morbidity and mortality, and high costs to the healthcare system. With the ageing of populations worldwide, the socioeconomic burden of hip fracture is set to rise dramatically.

A new Australian study published in *Archives of Osteoporosis*, looks at the 12-month mortality of older persons presenting to hospitals in Australia with hip fracture. It is the first large population-based matched cohort study exploring excess mortality risk from hip fracture in

An audit conducted by the Australian and New Zealand Hip Fracture Registry based at

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Background

- Approximately 22 000 people in Australia are hospitalised due to a hip fracture
- People with dementia are at high risk of hip fracture from falls
  - Hip fracture repair surgery is recommended as 1st line Mx for pain and mobility
- Literature suggests people with dementia do not receive the same pain Mx as cognitively intact people with similar conditions
  - Community, RACF
  - Small number of studies have looked at analgesia use among people with dementia following hip fracture and reported less opioid use
- Pain if under-treated may manifest as agitation/aggression and other BPSD in people with dementia

Hip fracture guidelines for analgesia use

CONSENSUS BASED RECOMMENDATIONS (ANZ GUIDELINE)

- Offer immediate analgesia to patients presenting at hospital with suspected hip fracture, including people with cognitive impairment.
- Offer paracetamol every 6 hours unless contraindicated.
- Offer additional opioids if paracetamol alone does not provide sufficient pain relief.

- Consider adding nerve blocks if systemic analgesia does not provide sufficient pain relief, or to limit opioid dosage (Evidence grade C).

Aim & Methods

- To examine the management of pain pre and post hip fracture repair surgery in people with dementia compared to those without
- Study design: retrospective cohort study, audit
- Study population: RMH (acute) patients undergoing hip fracture repair in 2015
  - PWD were matched to controls without dementia or delirium (age +/- 2 years, sex, treating unit)
  - Excluded those who died <24 hours, non-Sx repair, delirium without dementia, non-fall related fractures (MVA, self harm), 2 hip# in one adm, oncology and palliative care

Methods

- Collected clinical and demographic data from the administrative database and medical record
- Analgesia use
  - Preoperative
  - Postoperative < 72 hours of Sx
  - Compared median total daily doses of opiates between the 2 groups (Mann-Whitney U test was used to determine differences, $p<0.05$)

Results

- 240 patients total sample; 37 patients with dementia (4/41 excluded unclear Dx) and 62 matched cases

	Dementia (n=37)	Cognitively intact (n=62)	p value
Age in years, mean (SD)	85.8 (6.4)	84.6 (5.8)	0.362
Female, n (%)	28 (80.0)	50 (80.7)	0.939
Extracapsular fracture	24 (64.9)	36 (58.1)	0.503
Fracture repair type			0.83
Internal fixation (DHS/IM nail)	27 (73.0)	44 (71.0)	
Hemiarthroplasty	10 (27.0)	18 (29.0)	
Length of stay in days, median (IQR)	9 (5-11)	10 (8-14)	0.04*
Discharge destination			<0.001*
Usual residence	23 (62.2)	12 (19.4)	
Other acute/subacute care	14 (37.8)	49 (79.0)	
Death	0	1 (1.6)	

OPIATES converted to oral morphine equivalent (mg/dl)	Dementia (n=37)	Cognitively Intact Group (n=62)	p-Value
Preoperative Median (IQR) daily dose received (in ambulance and hospital)	17.5 (7.5-30)	45 (22.5-67.5)	<0.001*
Operative (Day 0) Median (IQR) total daily dose received	10 (7.5-22.5)	15 (9-30.5)	0.022*
Postop Day 1 Median (IQR) total daily dose received	22.5 (6-36)	30 (15-45)	0.07
Postop Day 2 Median (IQR) total daily dose received	15 (7.5-36)	30 (15-45)	0.157
Postop Day 3 Median (IQR) total daily dose received	9 (0-30)	22.5 (7.5-37.5)	0.061

PARACETAMOL **n (%) prescribed a regular dose**	**Dementia (n=37)**	**Cognitively Intact Group (n=62)**	**p-Value**
Preoperative	28 (75.7)	58 (93.5)	0.015*
Operative (Day 0)	35 (94.6)	61 (98.4)	0.554
Postop Day 1	36 (97.3)	61 (98.4)	1
Postop Day 2	37 (100)	60 (96.8)	0.527
Postop Day 3	37 (100)	60 (96.8)	0.527
PREOP NERVE BLOCK n (%)	15 (40.5)	25 (40.3)	0.983

Main findings

- Preoperative and on day of operation – people with dementia on average received significantly lower daily doses of opiates compared to those who were cognitively intact
  - Possible explanations/hypotheses: staff reluctant to prescribe opiates as they have been linked with increased confusion, inappropriate pain Ax (rely on self report)
  - Need for further exploration as to why this practice is occurring
- Significantly fewer people with dementia received regular paracetamol in the preoperative period
  - Need for further exploration as to why this practice is occurring
- Almost all patients received paracetamol in the postoperative period – no between group differences
- Spinal nerve blocks – similar across both groups

Strengths and Limitations

- This study highlights an important aspect of hip fracture care and the need to improve assessment and management of pain in cognitively impaired patients
- Provides baseline data for quality improvement projects

- Study was retrospective relied on documentation and coding of dementia and delirium
- A prospective study could more accurately assess cognitive impairment
- Small sample size, single hospital which may not be generalizable

Hip Fracture Improvement Group

- We hope the findings will inform improvement initiatives
  - Catalyst along with other challenges
  - Anaesthetics team working towards improving use of spinal blocks pre-op
- Hip fracture walk through to map current practice vs best practice
- Presented findings and recommendations to executive
- Orthogeriatric service has been extended – preop and all wards; GOPC discussions, medical optimisation, DCP, fall and # prevention
- Roles of the teams more clearly defined
- Aiming for Ortho-medicine unit

Thank you

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