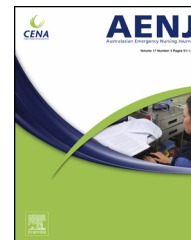




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RESEARCH PAPER

Audit improves Emergency Department triage, assessment, multi-modal analgesia and nerve block use in the management of pain in older people with neck of femur fracture



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KEYWORDS

Analgesia;
Elderly;
Femoral neck fractures;
Nerve block;
Pain management

Summary

Background: The use of NBs as a mode of analgesia for #NOF in the ED is not common practice despite the reported clinical benefits of quicker onset of pain relief, decreased use of additional analgesia and decreased amounts of analgesia required when more than one mode of analgesia is prescribed.

Aim: This study aims to test the hypothesis that the implementation of educational and awareness strategies increases knowledge, and implementation of the evidence based use of nerve blocks NB's, as a mode of analgesia for elderly patients with a fractured neck of femur (#NOF) in the Emergency Department (ED).

Methods: A retrospective clinical audit of medical records using explicit chart review pre and post implementation.

Results: Implementation of educational and awareness strategies on pain management to clinical staff in the ED resulted in a significant increase in the administration of NBs, use of multimodal analgesia, and a reduction in average milligrams of morphine administered to elderly patients with #NOF.

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Conclusions: The number of older people with #NOF presenting to the ED in Australia is increasing and historically, pain management in this group of patients could be improved. This study demonstrated that an audit, intervention and re-audit design that focused on the implementation of educational and promotional strategies informed by evidence on current and best practice standards were successful in improving delivery of analgesia to elderly patients with #NOF in the ED.

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What is known?

- Patients over the age of 65 years who present to Australian Emergency Departments with a Fractured Neck of Femur (#NOF) often receive inadequate analgesia.
- The administration of nerve blocks is recommended as an adjunct analgesia in the ED.
- The use of NB in the ED, for this patient population is not common.

What this paper adds?

The implementation of Educational and awareness strategies improved pain management in one ED, for this patient population:

- improvement in the use of nerve blocks,
- improvement in the use of multimodal analgesia,
- patients who received a NB showed a significant reduction in dose of morphine received in ED,
- decrease in the patients who received no analgesia,
- increase in the use of long acting analgesia.

Introduction

Among elderly patients presenting to the Emergency Department (ED) with a fractured neck of femur (#NOF), pain experience has been reported as being undertreated and suboptimal, with many patients experiencing 'oligoanalgesia'.¹ In Australia, it has been stated that 78–86% of all ED presentations are related to pain and that the delivery of pain relief is often inadequate and inconsistent.² The provision of analgesia to patients with #NOF is necessary and compounded by the delivery of health care that requires patient movement, which exacerbates pain.^{3–8} Relief and management of pain enable health professionals to perform a thorough medical assessment, reduce potential delays in management^{2,9} and decrease suffering.^{9,10}

Uncontrolled pain in this patient population has been associated with post operative complications and prolonged length of hospital stay.^{4,10,11} Older patients have a reduced tolerance to pain^{4,11} and are often stoic with the description of the pain they are experiencing,^{12,13} that if not detected by the treating health professional, can result in inaccurate pain assessment.

Untreated pain in older people has been linked to increased anxiety, delirium, and sleep deprivation, which impacts on a patient's quality of life and recovery from illness.^{1,4,14,15} Expert opinion is that pharmacodynamic changes and the physiological effects of ageing are a few determining and complicating factors when prescribing analgesia.^{10–12,14–19} The presence of pre-existing co-morbidities that impact on patients' mortality and morbidity should also be considered when prescribing analgesia.^{4,14,16,20}

The use of validated pain scales such as the Numerical Rating Scale (NRS) and Verbal Descriptor Scale (VDS) is recommended to subjectively assess a patients' pain.^{7,11,21,22} The Alfred Health Guideline²³ on 'Assessment and Management of Acute Pain' recommends that pain be treated at a score of 4/10 or greater, and these pain scores are used to guide analgesic interventions and track effectiveness of analgesia.^{1,7,11,15,21,22} Mortality at one year among patients post #NOF remains stable at 29–36% and is attributed not only to the injury but also to associated complications of immobility.^{24–26} Among survivors, less than a third of elderly patients return to their pre-fracture level of independence.²⁷ A large percentage require assistance with activities of daily living, and 25% go on to require full time nursing care post their injury.^{27,28}

The population of older people in Australia has increased over the last decade resulting in a higher occurrence of #NOF injuries and presentations to EDs: 17,003 in 2009 to 18,647 in 2011.^{29,30} It is predicted that the population older than 65 years will increase from 12% in 2002 to 23% in 2051,³¹ potentially resulting in an epidemic of hip fractures.^{32,33} There has also been an increase in the average length of hospital stay and cost per episode of care for this patient group.^{28,31} The impact of the increasing numbers of older people presenting to the ED with a #NOF and increasing cost of care will make the provision of quality care with adequate, timely and appropriate pain management an imperative.^{1,6,14,16,30,34}

An Australian study examining the patterns of analgesia for elderly patients with #NOF in the ED suggested that introduction of local pain management strategies, including the use of NBs could improve analgesia delivery.¹ This study aimed to test the hypothesis that the implementation of educational and awareness strategies based on the evidence increases the use of NBs as a mode of analgesia for this patient population.

Background

There is a paucity of research on pain assessment and the management of patients with a #NOF in the ED. Five clinical

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