

CONFERENCE ABSTRACT

Implementation of an integrated delirium prevention system of care for elderly patients with hip fractures

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Introduction: It was recently reported that 48% of elderly hip fracture patients had delirium during the perioperative period. Delirium is a distressing experience for patients and caregivers, and can initiate a cascade of deleterious clinical events, including postoperative complications, prolonged functional recovery and hospitalization, and death. Delirium is multifactorial and requires an integrated care intervention. Traditionally, hip fracture patients were wholly under the care of orthopaedic surgeons. More often than not, there was a lack of a comprehensive approach to prevent delirium among these patients.

Practice change implemented and aim of change: With the setting up of an integrated care hip unit for elderly with hip fractures, a structured integrated care intervention was developed with reference to the National Institute for Health and Care Excellence (NICE) guidelines. These interventions include timely surgical intervention within 48 hours, early detection of delirium through standardized screening, adequate central nervous system oxygen delivery, fluid and electrolyte balance, continence management, aggressive pain treatment, optimization of nutritional status, early mobilization and rehabilitation as well as early detection and treatment of post-operative complications. Ultimately, we hope to reduce the incidence of delirium among patients in the hip unit.

Targeted population and stakeholders: The integrated care intervention was delivered to patients within the integrated hip unit by a multidisciplinary team that is trained in delirium prevention which include orthopaedic surgeons, geriatricians, anaesthetists, physiotherapists, dietitians, and nurses.

Timeline: The development of the integrated delirium prevention system of care started during early 2014 by the relevant stakeholders and was put into practice when the integrated hip unit officially opened on 3rd November 2014, and is still ongoing to date.

Highlights: KTPH is the first hospital to propose the administration of continuous peripheral nerve block for all hip fracture patients to optimize pain control. Additionally, we are also the first to initiate assessment of delirium using Confusion Assessment Method (CAM) in the

emergency department so that detection and subsequently management can be made in the earliest time possible.

Of the 494 patients who underwent hip surgery from January 2015 to October 2016, our integrated hip unit managed to achieve a low delirium incidence of 10.1%. By reducing delirium, our patients can have better functional recovery, reduced medical complications and mortality, and reduced hospitalization stay. Notably, our unit's 30-day mortality and incidence of medical complications among patients are also significantly lower as compared to international data.

Sustainability and transferability: The integrated delirium prevention system of care has been formalized as a standard protocol in our hip unit and does not involve extra manpower, time, or cost. It merely formalizes a standardized workflow with available resources to prevent delirium in an elderly hip population, proving its sustainability. It is also possible to replicate this model of care at other hospitals elsewhere with the integrated care intervention pathway developed to improve outcomes of frail elderly with hip fractures.

Conclusions and discussions: Our findings may point to a relatively easily implemented integrated care approach to reduce delirium and improve outcomes for a vulnerable population. Besides having implications for long-term clinical effects, the occurrence of delirium has significant implications for healthcare utilization and costs. Reducing the rate of delirium would therefore simultaneously increase the quality of care while reducing healthcare costs.

Keywords: delirium; hip fracture; elderly
