



ORIGINAL ARTICLE

Results following the implementation of a clinical pathway in the process of care for elderly patients with osteoporotic hip fracture in a second level hospital[☆]



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KEYWORDS

Hip fracture;
Elderly;
Clinical pathway;
Length of stay;
Time to surgery

Abstract

Purpose: To evaluate the efficiency of a clinical pathway in the management of elderly patients with fragility hip fracture in a second level hospital in terms of length of stay time to surgery, morbidity, hospital mortality, and improved functional outcome.

Material and methods: A comparative and prospective study was carried out between two groups of patients with hip fracture aged 75 and older prior to 2010 ($n=216$), and after a quality improvement intervention in 2013 ($n=196$). A clinical pathway based on recent scientific evidence was implemented. The degree of compliance with the implemented measures was quantified.

Results: The characteristics of the patients in both groups were similar in age, gender, functional status (Barthel Index) and comorbidity (Charlson Index).

Median length of stay was reduced by more than 45% in 2013 (16.61 days vs. 9.08 days, $p=0.000$). Also, time to surgery decreased 29.4% in the multidisciplinary intervention group (6.23 days vs. 4.4 days, $p=0.000$). Patients assigned to the clinical pathway group showed higher medical complications rate (delirium, malnutrition, anaemia and electrolyte disorders), but a lower hospital mortality (5.10% vs. 2.87%, $p>0.005$). The incidence of surgical wound infection ($p=0.031$) and functional efficiency ($p=0.001$) also improved in 2013. An increased number of patients started treatment for osteoporosis (14.80% vs. 76.09%, $p=0.001$) after implementing the clinical pathway.

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PALABRAS CLAVE

Fractura de cadera;
Anciano;
Vía clínica;
Estancia hospitalaria;
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Conclusion: The implementation of a clinical pathway in the care process of elderly patients with hip fracture reduced length of stay and time to surgery, without a negative impact on associated clinical and functional outcomes.

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Resultados tras la aplicación de una vía clínica en el proceso de atención al paciente geriátrico con fractura de cadera osteoporótica en un hospital de segundo nivel

Resumen

Objetivo: Evaluar la eficiencia de una vía clínica en el manejo del paciente geriátrico con fractura de cadera por fragilidad en un hospital de segundo nivel, en términos de estancia total, prequirúrgica y morbimortalidad intrahospitalaria y resultado funcional.

Material y métodos: Estudio comparativo prospectivo entre dos grupos de pacientes (2010, n=216 y 2013, n=196) con fractura de cadera \geq 75 años, antes y después de la puesta en marcha de un plan de mejora, consistente en la aplicación de medidas multidisciplinares actualizadas de acuerdo con la evidencia científica reciente. Se registra el grado de cumplimiento de las medidas implantadas.

Resultados: Las características de los pacientes de ambos grupos fueron similares en edad, sexo, situación funcional (Índice de Barthel) y comorbilidad (Charlson).

En 2013 disminuyó la estancia media un 45% (16,61 días en 2010 vs. 9,08 días en 2013, $p=0,000$) y la estancia prequirúrgica un 29,4% (6,23 vs. 4,4 días, $p=0,000$). Se registraron mayores tasas de complicaciones médicas (delirium, desnutrición, anemia y trastornos electrolíticos) con una menor mortalidad intrahospitalaria posquirúrgica (5,10% vs. 2,87, $p > 0,005$). La incidencia de infección de herida quirúrgica ($p=0,031$) y la eficiencia funcional ($p=0,001$) también mejoraron en 2013. Mayor número de pacientes iniciaron tratamiento para la osteoporosis (14,80 vs. 76, 09%, $p=0,001$) tras la vía clínica.

Conclusión: La aplicación de una vía clínica en el manejo del paciente anciano con fractura de cadera proporciona una reducción de la estancia hospitalaria global y prequirúrgica, sin repercusión clínica y funcional negativa.

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Introduction

Hip fracture (HF) is a prevalent pathology among the elderly population, with over 85% of cases occurring in patients aged over 65 years. It is the most common cause for trauma-related hospitalisation in this population group.¹ It has repercussions at multiple levels due to the associated impact on quality of life and morbidity and mortality. It is the osteoporotic fracture with the highest rate of mortality, with percentages between 2% and 7% during the acute phase and up to 45% at 12 months after the episode, according to some series. After suffering a HF, patients have an increased relative risk of mortality between 2 and 3 times higher than the rest of the population with the same age and gender.² Half of those deaths occur during the first 6 months and are related to a worsening of a poor baseline condition, rather than the onset of severe postoperative complications.²

A study conducted in our country estimated that the cost per process during hospitalisation ranged between 10,590 and 15,573 euros.³ Since the acute phase accounts for up to 43% of the total stay (acute phase, functional recovery unit and stay at nursing homes),⁴ the secondary cost of institutionalisation should be added to that expense.

Several models for collaboration between Orthopaedics and Geriatrics Services⁵ have been described in order to improve the treatment of these patients (referral on demand, consultation and creation of Orthogeriatrics Units). However, Orthogeriatrics Units (OGU), with a greater level of coordination and involvement by trauma specialists, geriatricians and other professionals, with shared responsibility and joint decisions, have shown the greatest benefit in terms of reduction of overall stay and time to surgery, with less complications and mortality and greater access to rehabilitation, as well as lower economic costs.^{3,6-9}

From the standpoint of overall health recovery, the benefit of multidisciplinary management has been extensively proven. Therefore, at present, the main clinical practice guidelines¹⁰⁻¹³ recommend (grade A recommendation) that hospitals treating patients aged over 65 years with HF should offer programmes including early multidisciplinary evaluation by a team of geriatricians.

The objective of this study is to evaluate the efficiency of a clinical pathway for the management of geriatric patients with HF due to fragility at a second level hospital, in terms of overall stay, time to surgery and in-hospital morbidity and mortality.

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