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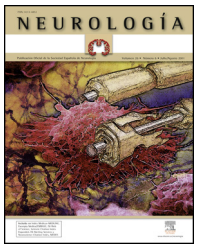

ORIGINAL ARTICLE

Functional outcome of stroke and the cumulative experience of a stroke unit☆

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KEYWORDS
Stroke unit;
Outcome;
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Rankin scale

Abstract
Objective: Patients with acute stroke are more likely to survive and achieve independence if they are treated in a stroke unit. Available information in our setting is scarce. We analyse the outcomes of our patients on the basis of cumulative experience in a stroke unit.
Patients and methods: A retrospective cohort study of patients admitted to a stroke unit. We differentiate between two groups according to the year of admission: group A (July 2007—December 2009) and group B (January 2010—December 2011), analysing early outcome based on the score on the National Institute of Health stroke scale and mortality at discharge, and medium-term outcome in terms of mortality and functional status according to the modified Rankin scale at three months.
Results: A total 1070 patients were included. There were no differences between groups with respect to favourable outcome (68.3% vs 63.9%), hospital mortality (5.1% vs 6.6%), or 90-day mortality (12.8% vs 13.1%). The percentage of patients who were independent at 90 days was greater in group B (56.3% vs 65.5%, $P = .03$). In the multivariate analysis adjusted for stroke subtype and fibrinolytic therapy, the association between patient independence and admission period remained present.
Conclusions: The probability of functional independence in our patients increased alongside accumulated experience in our stroke unit with no differences in mortality.

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PALABRAS CLAVE
Unidad de ictus;
Situación funcional;
Mortalidad;
Complicaciones;
Independencia;
Escala Rankin

Situación funcional tras un ictus y experiencia acumulada de una unidad de ictus

Resumen
Objetivo: Los pacientes con un ictus tienen más probabilidades de supervivencia e independencia si son atendidos en una unidad de ictus. La información disponible en nuestro entorno acerca de la influencia del aprendizaje sobre estos resultados es escasa. Analizamos la situación funcional y mortalidad en nuestros pacientes en función de la experiencia acumulada en una unidad de ictus.
Pacientes y métodos: Estudio de cohortes retrospectivo de pacientes ingresados en una unidad de ictus. Diferenciamos 2 grupos según el año de ingreso: grupo A (julio 2007-diciembre 2009) y grupo B (enero 2010-diciembre 2011), analizando la evolución precoz en función de la puntuación en la escala de ictus del National Institute of Health y la mortalidad al alta y la situación funcional a medio plazo en función de la mortalidad y estado funcional según la escala Rankin a los 3 meses.
Resultados: Se incluyó a 1.070 pacientes. No se obtuvo diferencias entre los grupos ni en la evolución favorable (68,3% vs. 63,9), ni en la mortalidad tanto hospitalaria (5,1% vs. 6,6%), como a los 90 días (12,8% vs. 13,1%), siendo mayor el porcentaje de independientes a los 90 días en el grupo B (56,3% vs. 65,5%: p = 0,03). El análisis multivariante ajustado por subtipo de ictus y tratamiento fibrinolítico mantuvo la asociación entre la independencia y el período de ingreso.
Conclusiones: La probabilidad de independencia funcional de nuestros pacientes aumentó con la experiencia acumulada de nuestra Unidad de Ictus sin observarse diferencias en la mortalidad.

Introduction

Stroke poses one of the most significant public health challenges.[1] In Spain, according to data from the Ibericctus study,[2] between 80 000 and 90 000 stroke events occur every year, making this the third-leading cause of death among men and the leading cause among women.[3] Furthermore, it elicits considerable disability in surviving patients and is listed as the leading cause of disability in adults.[4] As such, stroke is one of the diseases with the greatest social and economic burdens.[5]

In recent years, 4 types of interventions have been proved effective in patients with acute stroke,[6] provided that stroke is regarded as a medical emergency.[7] This will lay to rest the therapeutic nihilism that was associated with the disease during many decades.[8]

Based on this evidence, members of the Spanish Society of Neurology's Study Group for Cerebrovascular Diseases (GEECV) published a statement stressing the need for an organised stroke care system that would respond to patient needs and optimise use of healthcare resources in our setting.[9] This initiative has been expanded and it culminated with the participation of several different medical societies in the creation of the Spanish National Health System's stroke care strategy.[10] In its strategic lines, this document describes acute-phase care for stroke patients and prioritises providing care in stroke units (SUs).

Spain currently boasts 39 SUs,[11] but very few publications describe the characteristics, activity, and results of these centres.[12] Our objective is to analyse early and 90-day prognoses of patients admitted to our SU based on our cumulative experience.

Patients and methods

This cohort study presents a retrospective analysis of consecutive patients admitted to the SU at Hospital San Pedro de Alcántara in Cáceres (HSPA-CC) since that unit was formed. Patients were divided into 2 groups according to year of admission. Group A included patients admitted between July 2007 and 31 December 2009, and Group B included admissions between 1 January 2010 and 31 December 2011.

HSPA-CC provides care to a health district with 200 000 inhabitants. That hospital's SU is the reference unit for the entire province (411 633 inhabitants) and it may admit patients from anywhere in Extremadura. The unit is self-contained and located in the Neurology Department's admission ward. It includes 4 acute care beds with non-invasive multi-parameter monitoring systems and an unmonitored 'pre-discharge' bed for use in rehabilitation therapy. The unit is staffed by a multidisciplinary team coordinated by a neurologist with permanently assigned nursing personnel. A neurologist is physically present 24 hours a day. The unit's activities follow its procedural manual. All admitted patients' details were included prospectively in a database recording their demographic characteristics, medical history, risk factors, descriptive variables for the acute process, neurological evaluation scales,[13] paraclinical tests, complications,[14] final diagnosis according to GEECV recommendations,[15] and functional outcome at discharge. Ischaemic strokes were classified according to the Oxfordshire Community Stroke Project (OCSP)[16] and Trial of Org 10172 in Acute Stroke (TOAST).[17] Surviving patients were assessed in a specialist vascular neurology clinic in periods depending on the aetiological subtype of the stroke.