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BRIEF ORIGINAL

Prognostic value of a previous medical or surgical admission in outpatients with symptomatic pulmonary embolism[☆]



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KEYWORDS

Thromboembolism;
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Abstract

Objective: To determine whether an earlier medical (MA) or surgical (SA) admission in the previous three months is a factor associated with mortality at 30 days in outpatients with acute symptomatic pulmonary embolism.

Method: Observational, retrospective cohort study on adult patients diagnosed with acute symptomatic pulmonary embolism in a tertiary hospital over a period of 6 years.

Results: The study included 870 patients with a mean age of 72.7 years: 10.6% (92) had a prior MA, 4.9% (43) had a SA and 12.9% (112) died within the first 30 days. The MA group showed a higher frequency of simplified Pulmonary Embolism Severity Index (PESI) of high risk (≥ 1) (MA 90.2% vs SA 65.1% vs no prior admission 67.0%; $p < 0.001$) and mortality at 30 days (MA 20.7% vs SA 7.0% vs no prior admission 12.9%; $p = 0.038$). The logistic regression analysis demonstrated that a simplified PESI ≥ 1 was the only independent risk factor for mortality at 30 days.

Conclusions: The severity of the acute episode, as assessed by the simplified PESI scale, is independently associated with mortality at 30 days in outpatients with acute symptomatic pulmonary embolism. An earlier MA in the previous 3 months usually involves greater severity in the acute episode.

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PALABRAS CLAVE

Tromboembolia;
Embolia pulmonar;
Hospitalización

Valor pronóstico de un ingreso previo médico o quirúrgico en pacientes con embolia pulmonar sintomática ambulatoria

Resumen

Objetivo: Determinar si el antecedente de un ingreso, médico (IM) o quirúrgico (IQ), en los 3 meses previos es un factor asociado a la mortalidad a los 30 días en pacientes con embolia pulmonar aguda sintomática ambulatoria.

Método: Estudio observacional de cohortes retrospectivo que incluyó a pacientes adultos con el diagnóstico de embolia pulmonar aguda sintomática en un hospital terciario durante 6 años.

Resultados: Se incluyeron 870 pacientes con una edad media de 72,7 años. Un 10,6% (92) tuvieron un IM previo y un 4,9% (43) un IQ. Ciento doce (12,9%) fallecieron en los primeros 30 días. En el grupo de IM se documentó mayor frecuencia de Pulmonary Embolism Severity Index (PESI) simplificada de alto riesgo (≥ 1) (IM 90,2% vs. IQ 65,1% vs. sin ingreso previo 67%; $p < 0,001$) y de mortalidad a los 30 días (IM 20,7% vs. IQ 7% vs. sin ingreso previo 12,9%; $p = 0,038$). Tras un análisis de regresión logística la PESI simplificada ≥ 1 fue el único factor independiente de mortalidad a 30 días.

Conclusiones: La gravedad del episodio agudo, valorada por la escala PESI simplificada, se asocia de forma independiente con la mortalidad a 30 días en los pacientes con embolia pulmonar aguda sintomática ambulatoria. El antecedente de un IM en los 3 meses previos suele conllevar mayor gravedad en el episodio agudo.

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Background

Venous thromboembolism (VTE) is the third most common acute cardiovascular disease after myocardial infarction and stroke. The incidence of VTE in Spain is approximately 120 cases per 100,000 inhabitants/year.¹ A consistent increase has been documented in the number of cases due to the progressive increase in prevalence of a number of its risk factors, such as advanced age, obesity, hospitalization and surgery, which likely carry an increase in morbidity and mortality, in the number of hospitalizations and in healthcare costs.¹⁻³

Hospitalization is a recognized risk and prognostic factor for VTE. There are studies that have shown that the risk attributed to hospitalization not only occurs during hospitalization but persists for up to 90 days after hospital discharge.⁴ Moreover, hospital VTE (i.e., that which develops during hospitalization due to another cause) is associated with a higher rate of fatal pulmonary embolism (PE), overall mortality and severe hemorrhage when compared with VTE that develops in an outpatient setting.⁵ There have also been reports that the rate of fatal PE is higher in patients hospitalized for medical disease compared with those hospitalized for surgical disease.⁶ This poorer prognosis of hospital VTE and of medical vs. surgical hospitalization could be explained by the greater degree of comorbidity and the poorer clinical situation of the hospitalized patients.⁵

In terms of outpatient VTE, it is not currently known whether patients who develop VTE after a recent hospitalization have a poorer associated short-term prognosis or whether there are differences depending on the type of hospitalization (medical [MH] or surgical [SH]). Therefore, the

main objective of this study was to determine whether the presence and type of hospitalization, MH or SH, in the previous 3 months are factors associated with mortality at 30 days for patients hospitalized in the emergency department due to an acute symptomatic PE episode.

Methodology**Study design**

An observational, retrospective cohort study was conducted that included all patients over a 6-year period who were admitted to the emergency department of Clinic Hospital San Carlos of Madrid with a diagnosis of acute symptomatic PE.

Patient selection

An online search was performed in an administrative electronic database of all patients aged 15 years or older with a hospitalization diagnosis of PE during the study period. The diagnosis of PE was based on the results of computed angiotomography or pulmonary ventilation/perfusion scintigraphy.

Study endpoints

The data were collected in a structured form based on the patient's emergency department medical history and hospital discharge report. The independent variables were the demographic data (age and sex), medical history

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