

Title

Temporal Changes in Hospital Length of Stay and In-Hospital Mortality Among Patients Admitted for Acute Pulmonary Embolism

Authors

Andrea Sánchez Alonso¹, Mario Aláez Gómez¹, María Luisa Polonio González¹, David Carlos Echavarria Kashmiri¹, Ana María Gómez Ortiz¹, Luis Jara Palomares¹.

1 Unidad Médico-Quirúrgica de Enfermedades Respiratorias. Hospital Universitario Virgen del Rocío, Sevilla, España.

Background

Acute symptomatic pulmonary embolism (PE) requiring hospital admission is associated with substantial morbidity and healthcare resource use. Understanding changes in hospital length of stay and in-hospital mortality may inform resource planning and the evaluation of care delivery. We compared these outcomes between two periods among patients admitted primarily for acute PE.

Methods

We conducted a cohort study comparing consecutive patients admitted for acute symptomatic PE during 2009–2012 and 2020–2023. Eligible cases were identified using International Classification of Diseases, Tenth Revision (ICD-10) codes and confirmed by manual review by an investigator. Sociodemographic, clinical and prognostic characteristics were collected, together with hospital length of stay and in-hospital mortality. Categorical variables were compared using Pearson's χ^2 test, supplemented by Cramér's V and Bayesian analysis.

Results

The study included 1,213 patients across both periods. Median age was 68 years (55–77), and 28.4% had cancer. Sex distribution did not differ between periods. Median hospital length of stay decreased from 7 days in 2009–2012 to 4 days in 2020–2023 ($p < 0.001$). In-hospital mortality did not differ significantly between periods (10% vs. 9%; $p = 0.76$).

Conclusions

Among patients admitted for acute PE at our centre, median hospital length of stay decreased by 3 days between the two study periods, while no significant difference in in-

hospital mortality was detected. These findings suggest a reduction in hospital resource use, although the factors underlying this change require further investigation.