



CNS

Comparison of Inpatient and Outpatient Onset of Ischemic Stroke with Clinical Outcomes

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Introduction

Reperfusion times for ischemic stroke occurring in the outpatient setting have improved significantly in recent years. However, quality improvement efforts have largely ignored ischemic stroke happening in patients hospitalized for unrelated indications.

Methods

We performed a cohort study involving patients with ischemic stroke from 2009-2013, who were registered in the database of the California Office of Statewide Health Planning and Development (OSHPD). Strokes were classified as inpatient or outpatient onset based on “present-on-admission” codes. A regression analysis in propensity-matched cohorts was used to assess the association of location of onset of ischemic stroke and outcomes. Mixed effects methods were employed to control for clustering at the hospital level.

Results

Of the 57,098 ischemic strokes, 46,585 (82.6%) occurred outside of a hospital, and 10,513 (18.4%) occurred in patients hospitalized for non-stroke related indications. Using a logistic regression integrating the results of propensity score matching we demonstrated that patients with ischemic stroke onset in an inpatient setting had higher inpatient mortality (OR, 3.4; 95% CI, 3.2-3.5), rate of discharge to rehabilitation (OR, 1.06; 95% CI, 3.01-1.13), and longer length-of-stay (LOS) (beta, 12.7; 95% CI, 12.1-13.3) in comparison to patients with stroke onset in the outpatient setting.

Conclusions

Using a comprehensive all-payer cohort of ischemic stroke patients in California we identified an association of inpatient stroke onset (for patients hospitalized for non-stroke indications) with increased mortality, rate of discharge to rehabilitation, and LOS.