The volume-outcome relationship of percutaneous coronary intervention: can current procedure volume minimums be applied to a developing country?

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摘要

Abstract

ObjectivesA minimum percutaneous coronary intervention (PCI) hospital volume of 400 cases per year is recommended by the American College of Cardiology/American Heart Association (ACC/AHA). However, it is unclear whether this minimum value standard applies to non-Western developing countries, such as Taiwan. The aim of this study was to assess the application in Taiwan of current ACC/AHA practice guidelines for minimum hospital PCI volume.

MethodsUsing the 2003 Taiwan National Health Insurance Research Database and the Cause of Death Data File, we analyzed and compared the risk of 30-day mortality for patients (n = 12369) treated at low− (<200 cases per year), medium− (200-399 cases per year), and high− (≥400 cases per year) PCI volume hospitals. A multivariable logistic regression using generalized estimating equations was conducted to assess the independent association of hospital PCI volume and patient 30-day mortality.

ResultsCrude 30-day mortality rates among low−, medium−, and high−PCI volume hospitals were 3.10%, 2.82%, and 1.80%, respectively. Patients treated at low−PCI volume hospitals had 1.54 (95% CI, 1.17-2.02) times higher odds of 30-day mortality than those treated at high−PCI volume hospitals after adjusting for other factors. The adjusted odds ratio between medium- and high-volume hospitals did not reach statistical significance (odds ratio 1.33, 95% CI 0.91-1.56).

ConclusionsThough greater, the adjusted odds of 30-day mortality for patients undergoing PCI at medium-volume hospitals was not significantly different from those of patients

treated at high-volume hospitals. This suggests that current ACC/AHA PCI hospital volume minimums may need to be reevaluated in non-Western countries such as Taiwan.