Prognostic impact of quality indicators on outcomes of acute aortic dissection in Japan

Authors:
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Topic(s):
Acute Aortic Syndromes, Aortic Dissection

Citation:
Background: Despite recent advances in diagnosis and management, the mortality of acute aortic dissection (AAD) remains high.

Purpose: This study aims to develop quality indicators (QIs) for the management of AAD, and to evaluate the associations between QIs and outcomes of AAD in a Japanese nationwide administrative database.

Methods: A total of 18,348 patients suffered from AAD (Type A: 10,131, Type B: 8,217) in the Japanese Registry of All Cardiac and Vascular Diseases database between 2012 and 2015 were studied. A systematic review was performed to establish initial index items for QIs. Evaluation was performed through the expert consensus meeting using a Delphi method. Associations between developed QIs and the mortality were determined by multivariate mixed logistic regression analyses.

Results: A total of nine QIs (five structural and four processatic) were developed. Achievements of developed QIs (High: 7-9, Middle: 4-6, Low: 0-3) were significantly associated with lower in-hospital mortality even after adjustment for covariates in both type A (Middle: odds ratio [OR], 0.257; 95% confidence interval [CI], 0.211–0.312; P <0.001; High: OR, 0.064; 95% CI, 0.047–0.086; P <0.001 vs. Low) and type B (Middle: OR, 0.447; 95% CI, 0.338–0.590; P <0.001; High: OR, 0.128; 95% CI, 0.077–0.215; P <0.001 vs. Low). Additionally, achievements of structural and processatic QIs were consistently associated with reduced in-hospital mortality.

Conclusions: Developed QIs for AAD management were significantly associated with lower in-hospital mortality. Evaluation of each hospital’s management with QIs could be helpful to equalize quality of treatment and to fill the evidence-to-practice gaps in the real-world treatment.
Abstract:

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