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APPROPRIATE UTILIZATION OF TRANSESOPHAGEAL ECHOCARDIOGRAPHY IN AN ACADEMIC SETTING

ACC Poster Contributions

Ernest N. Morial Convention Center, Hall F

Monday, April 04, 2011, 9:30 a.m.-10:45 a.m.

Session Title: 2D and 3D Transthoracic and Transesophageal Echocardiography

Abstract Category: 32. Echocardiography: 3-D, TEE, and Intracardiac Echo

Session-Poster Board Number: 1092-220

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Background: Appropriateness criteria (AC) for transesophageal echocardiography (TEE) as an initial test were published in 2007. The factors that could affect the appropriate utilization of TEE have not yet been identified. The aim of this study was to determine various factors' effect on the appropriateness of TEE application in a single academic medical center.

Methods: 554 TEE were performed without preceding transthoracic echocardiography during 2007-2009 at our institution. Age, sex, ethnicity, body mass index, referral service, reason for the study, and the year of the index procedure were identified as variables. Differences in these characteristics were compared using a t-test for continuous variables and χ^2 tests for categorical variables between appropriate and inappropriate TEE usage groups. A logistic regression model was used to investigate the relationship between the appropriate utilization of TEE and significant variables.

Results: Reason for the study, referral service and the year of the index procedure were significantly related to appropriate TEE applications ($p < 0.01$). The inpatient cardiology team referred the highest percentage of appropriate TEE among all referral services. In contrast, the inpatient neurology team referred the lowest appropriate TEE. Endocarditis, evaluation of aorta, and pre-atrial fibrillation ablation or cardioversion were related to the appropriate use of TEE. However, stroke and prosthetic valve evaluation were not related to the appropriate use of TEE. For the 3 years, the appropriate use of TEE was significantly higher in 2009 than 2007 but not statistically different from 2008. The appropriate use of TEE was 2.08 times higher in 2009 than in 2007 (χ^2 test, $p < 0.01$). After adjusting for age, the referral service and year of the index procedure remained significant to the appropriate use of TEE. Appropriate utilization of TEE resulted in a decline in the volume of procedures performed, from 204 in 2007, to 191 in 2008, and to 159 in 2009.

Conclusion: The referral service, reason for study and the year of the index procedure had significant effects on the appropriate utilization of TEE. Application of the current AC resulted in a decline in the TEE volume.