EVALUATION OF FOUR RISK MODELS IN OPERATIVE AND 1 YEAR MORTALITY IN PATIENTS UNDERGOING AORTIC VALVE REPLACEMENT

ACC Poster Contributions
Ernest N. Morial Convention Center, Hall F
Tuesday, April 05, 2011, 9:30 a.m.-10:45 a.m.

Session Title: Adult Cardiothoracic: Predictors of Outcome
Abstract Category: 18. Adult Cardiothoracic Surgery/Valvular Surgery
Session-Poster Board Number: 1153-80

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Background: Multiple risk models estimate perioperative risk in patients undergoing Aortic Valve Replacement (AVR). Determinants of long term outcomes however are less well understood. We evaluated the performance of four models to predict operative and one year mortality after discharge.

Methods: We stratified 538 consecutive patients undergoing isolated AVR into low (<5%), intermediate (5-<10%) and high (>10%) risk tertiles using Euroscore, Ambler, Providence Health Systems, and STS Predicted Risk of Mortality. Predicted and actual operative and 1-year mortality after hospital discharge were compared using receiver operating characteristic (ROC) curves.

Results: Operative mortality was 17 of 538 (3.2%), while survival one year after discharge was 97%. STS-PROM and Ambler models best predicted operative mortality (AUC=0.74; 0.75). One year after discharge, the models that best predicted mortality were Ambler and STS PROM (AUC=0.79; 0.79), while PHS best differentiated risk tertiles (Low 1.8%, Med 7.8%, High 16.7%).

Conclusions: This study further validates the accuracy of STS-PROM and Ambler in predicting both operative mortality and overall mortality 1 year after discharge. PHS however may be more useful to stratify risk groups. As percutaneous AVR is being performed more readily, better understanding of factors impacting long term outcomes are needed, and accurate risk models may become important to select the appropriate approach to treat patients.