

The Role of CHA2DS2-VASc Score vs. Anticoagulation for Predicting Morbidity and Mortality for Ischemic Bowel Disease secondary to Atrial Fibrillation

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Abstract

Atrial fibrillation is a common disorder which can potentially have multiple adverse outcomes. One such outcome is the development of ischemic bowel disease. The aims of this study are: to evaluate the role of CHA2DS2-VASc score as a predictor of higher mortality in patients who have atrial fibrillation and ischemic bowel disease, i.e. if a higher CHA2DS2-VASc score is associated with higher mortality; to evaluate whether being on anticoagulation is associated with a lower mortality for such patients in this population.

Methods: This retrospective study reviewed patients admitted to three community teaching hospitals (health system) from January 1, 2016, through October 15, 2018 with the primary diagnosis of atrial fibrillation and ischemic bowel disease. The subject cohort was gathered via the use of International Statistical Classification of Diseases and Related Health Problems (ICD) 10 codes. Baseline characteristics such as age, sex, CHA2DS2-VASc Score, and mean Cr, subjects use of anticoagulation were analyzed. Hazard ratios, P-values, Confidence Intervals, and a Cox proportional-hazards model for the baseline characteristics were calculated. Kaplan-Meier curves were calculated and then plotted together for subjects on anticoagulation versus those not on anticoagulation. The area under the receiver operating characteristic (ROC) curve was employed to assess the predictive power of CHA2DS2-VASc score for mortality development among ischemic bowel disease patients with atrial fibrillation.

Results: Sixty-five patients were included. The majority of the patients were older than >75 (63%), female (69%), and had established HTN (68%). The mean CHA2DS2-VASc score was 4.25 with p value <0.009. Utilizing the cox proportional-hazards model, the hazard ratios for females, patients with diabetes mellitus, and CHA2DS2-VASc score were statistically significant with p-value <0.05 and hazard ratios with confidence intervals that did not include 1.

The area under the curve of ROC was 0.67, indicating a fair-to-poor marker with regards to the predictive power of CHA2DS2-VASc score for mortality development in patients with ischemic bowel disease patients and atrial fibrillation. When examining mortality in patients based on whether or not patients were on anticoagulation, the hazard ratio was 0.3588197057 (CI 0.08873281868) with P <0.05. The Kaplan-Meier curves demonstrate longer survival and less mortality for patients with atrial fibrillation on anticoagulation.

Conclusions: The predictive power of the CHA2DS2-VASc score was relatively low. Our current results show that the CHA2DS2-VASc score had a statistically significant hazard ratio, meaning that a score >4 had increased mortality. Patients on anticoagulation had less mortality than patients not on anticoagulation. Going forward, physicians should opt for anticoagulation in patients with atrial fibrillation unless it is absolutely contraindicated.

Biography

Neethi Dasu is a Doctor of Osteopathic Medicine, Rowan University, Glassboro, New Jersey, United States

Publication

1. Ayubi, Erfan, and Saeid Safiri. "Comments on CHA2DS2-VASc Score in the Prediction of Ischemic Bowel Disease among Patients with Atrial Fibrillation." *International Journal of Cardiology*, vol. 242, 2017, p. 9., doi:10.1016/j.ijcard.2017.03.012.
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[7th International Conference on Cardiology and Cardiovascular Medicine](#) | July 14, 2020

Citation: Neethi Dasu, The Role of CHA2DS2-VASc Score vs. Anticoagulation for Predicting Morbidity and Mortality for Ischemic Bowel Disease secondary to Atrial Fibrillation, Global Cardiology Congress 2020, 7th International Conference on Cardiology and Cardiovascular Medicine, July 13-14, 2020, Page: 05