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## Predicting postoperative atrial fibrillation using CHA2DS2-VASc score: A retrospective observational study

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**Background:** Postoperative atrial fibrillation (POAF) is an arrhythmia most commonly seen after cardiac surgery. Its association with increased mortality, cost and adverse events has made it crucial to identify those at risk and to prevent POAF through preoperative therapy. In order to do that, we have studied the utilization and predictive power of the CHA2DS2-VASc score, and the relationship between other factors such as preoperative medications and patient clinical characteristics.

**Methods:** Retrospective observational studies was conducted by reviewing medical charts from Jan 2010 to Dec 2014 for patients who underwent coronary arteries bypass grafting (CABG) or off pump coronary arteries bypass grafting (OPCAB) with or without aortic valve replacement or mitral valve/tricuspid valve repair and aged >18 years. Patients with a preoperative history of atrial fibrillation (AF) or flutter, patients with a pacemaker, patients with prior antiarrhythmic drugs use within the last 6 months, patients who underwent MAZE procedures, or patients with mechanical mitral valve were excluded.

**Results:** At a cut-off score of  $\geq 2$  the CHA2DS2-VASc showed a 96.8% sensitivity and 23.1% specificity for predicting POAF. It also showed increased risk at higher scores, score of at least three significantly predicted the occurrence of events (Age, high BMI were significant predictors of POAF (P value<0.001, P value<0.001). Patients who received statins preoperatively were at significant lower risk

**Conclusion:** Under the theme of patients' safety, the best management of POAF should be by way of prevention. The CHA2DS2-VASc score and other clinical patient features studied in this project can prove to be strong predictors of adverse events post operatively and thus a guide for discriminating patients who can benefit from stronger preoperative optimization from patients who are at lower risks of POAF.