

Predictive value of STOP-BANG Score in patients undergoing Coronary Artery Bypass (CABG)

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Introduction

Obstructive Sleep Apnea (OSA) increases post operative cardiac complications and morbidity in the general populationⁱ. The STOP-Bang questionnaire was specifically developed to be a easy-to-use screening tool to predict risk patient having OSAⁱⁱ. The association between STOP-Bang score and mortality and morbidity undergoing cardiac surgery is not well established.

Methodology

This was a prospective cohort study of patients undergoing cardiac surgery. STOP-Bang questionnaire was administered prior to surgery. Ethics approval was obtained from Institutional Review Board.

Patients are excluded if have positive airway pressure (PAP) therapy and compliant to it or had valvular replacement surgery. Peri-operative data and post operative outcomes including morbidity, mortality and length of stay was collected for a follow-up period of 1 year.

Results and Discussions

Among 1349 patients recruited for the study, 919 patients met inclusion criteria and was categorized into Low (N=197), Intermediate (N=626) and High (N=626) risk groups based on STOP-Bang Score of 1-2, 3-4 and 5-8.

The rates of composite cardiac complications were 53/197(26.9%) in low risk, 186/626(29.7%) in intermediate risk and 27/96(28.1%) in high risk group (p=0.737). STOP-Bang risk groups did not predict 30 day mortality (Ref group: Low risk. Intermediate risk p=0.576 and high risk p=0.448) and 1 year mortality(Ref group: Low risk. Intermediate risk p=0.998 and high risk p=0.345).

In exploratory analysis, increasing STOP-Bang risk group is associated with increased acute kidney injury (AKI) (Adjusted HR 1.39, [95% CI 0.021-0.63, p=0.036]) but reduction in re-admissions to ICU (Adjusted HR 0.49, [95% CI -0.024 - -1.40, p=0.49]). Subgroup analysis shows female and thinner patients has more re-admissions to ICU (p<0.05). There was no significant differences in other secondary outcomes.

Conclusions

STOP-Bang Score is not useful in predicting cardiac outcomes and mortality in patients undergoing CABG surgery, but may predict post-operative AKI.

294 words

ⁱ Chan MTV, Wang CY, Seet E. Association of Unrecognized Obstructive Sleep Apnea With Postoperative Cardiovascular Events in Patients Undergoing Major Noncardiac Surgery. *JAMA*. 2019;321(18):1788–1798. doi:<https://doi.org/10.1001/jama.2019.4783>

ⁱⁱ Frances Chung, Hairil R. Abdullah, Pu Liao. STOP-Bang Questionnaire: A Practical Approach to Screen for Obstructive Sleep Apnea, *Chest*, Volume 149, Issue 3, 2016, Pages 631-638, ISSN 0012-3692. doi: <https://doi.org/10.1378/chest.15-0903>.