**A MIXED TREATMENT ANALYSIS COMPARING THE EFFICACIES OF IVABRADINE VERSUS BETA BLOCKERS WHEN USED AS PREMEDICATION FOR HEART RATE REDUCTION IN COMPUTED TOMOGRAPHY CORONARY ANGIOGRAPHY**

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*Introduction*: Computed Tomography Coronary Angiography (CTCA) is a non-invasive tool for the diagnosis of coronary artery disease with a high negative predictive value. To minimize coronary artery motion artifacts and optimize image quality, a HR < 65 beats per minute is required.

*Hypothesis:* Ivabradine is superior to beta blockers in achieving optimal heart rate when used as premedication prior to CT coronary angiography./>

*Methods*: Studies were extracted from an electronic literature search of PubMed, MEDLINE and EMBASE. Of all relevant RCTs, 7 RCTs, including 795 patients, were identified. The main outcome of interest was the mean relative HR reduction between T0 to T2 phases of imaging after initial premedication. There were several outcomes for safety, primarily bradycardia, hypotension and other cardiac arrhythmias. A mixed-treatment comparisons analysis was then used to compare each of these agents to one another. Calculation of the probability that each treatment is best was implemented using the Bayesian Markov chain Monte Carlo method.

*Results*: All agents were significantly superior to placebo in achieving relative HR reduction. Ivabradine was superior to BB with an overall mean relative reduction of HR of 6.1 +/- 7.79, when compared to BB. In terms of rank probability Ivabradine had the highest rank probability of being the agent to cause maximal mean HR reduction. There were no statistically significant differences in terms of adverse events. The degree of incoherence was low for all outcomes.

*Conclusion*: This analysis to date is the first to compare these drugs when used in the reduction of HR prior to CTCA with different efficacy outcomes. The results of the study show that Ivabradine seems to be the most effective and safe agent when used for this purpose.