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J Clin Exp Cardiolog 2018, Volume 9
DOI: 10.4172/2155-9880-C3-096

Effect of Ranolazine in the reduction of HbA1c in patients with type 2 diabetes mellitus: A meta-analysis

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This review aimed to evaluate the effect of ranolazine in reducing HbA1c levels among patients with type 2 diabetes mellitus (DM) with or without coronary artery disease. Ranolazine is a novel antianginal drug for the treatment of chronic angina which has mechanism of action on the inhibition of the cardiac late sodium current. This medication is not yet approved for standard of care treatment in type 2 DM however post-hoc analyses from large multi-center studies have shown the association of reduced HbA1c levels among the studied population. The researchers performed a comprehensive search of Medline, Cochrane Library, Google Scholar, PubMed, and ClinicalTrials.gov for articles that studied the effect of ranolazine on glycemic control or HbA1c. From all the studies searched, the data on standardized mean difference from change of baseline HbA1c to treatment outcome and the random-effects method were used for this meta-analysis. Three studies with 1955 patients were included in the analysis, 953 patients in the ranolazine treatment arm versus 1002 population in the placebo. The average baseline HbA1c was 7.7% and female patients included were 42.5%. After a pooled analysis, the ranolazine treatment group showed significant reduction in HbA1c of (standard mean difference of -6.88 with a CI at 95% (-8.02, -5.74) with p value of <0.00001. Ranolazine showed significant reduction in HbA1c based from the three studies included in this meta-analysis. Ranolazine may be beneficial for type 2 DM patients with coronary artery disease for antianginal effects and for reduction of HbA1c for glycemic control.

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