The efficacy of coronary sinus reduction in refractory angina: A meta-analysis

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Objectives: Refractory angina is a frequent complain of patients with coronary artery disease. Its management is challenging despite the available pharmacological approaches. Interventional approaches have also been attempted, with coronary sinus reduction (CSR) being the main treatment option.

Purpose: This meta-analysis aimed to assess the efficacy of CSR in improving symptoms and cardiovascular endpoints in patients with refractory angina.

Methods: We searched the Pubmed database till 26/2/2023 for studies assessing the impact of CSR in refractory angina. The primary outcome of interest was the improvement in Canadian Cardiovascular Society (CCS) category by at least one class. Secondary outcomes included the implantation success, the proportion of patients improving by at least two CCS classes, as well as the rates of new myocardial infarction/percutaneous coronary intervention and mortality at follow-up.

Results: The literature search resulted in 190 studies. After screening of title/abstract/full-text, a total of 10 studies (1400 patients) were included in the meta-analysis. The median follow-up was 12.8 months (range: 4-24 months). High rates of implantation success (97%, 95% confidence interval (CI) 95%-98) were reported. Improvement by at least one CCS class was reported by 77% (95% CI 73%-81%). Improvement by at least two CCS classes was seen in 41% (95% CI 36%-47%). The proportion of patients exhibiting a new myocardial infarction/percutaneous coronary intervention was 7% (95% CI 3%-16%), while the mortality rate was 7% (95% CI 3%-14%).

Conclusion: Coronary sinus reduction is a procedure accompanied by high success rates, and is effective in improving symptoms in a considerable proportion of patients with refractory angina.