



A META-ANALYSIS AND SYSTEMATIC REVIEW OF MAVACAMTEN A NOVEL DISEASE SPECIFIC TREATMENT FOR HYPERTROPHIC OBSTRUCTIVE CARDIOMYOPATHY

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ABSTRACT

Background: Hypertrophic cardiomyopathy (HCM) is a common genetically based cardiac disease with an estimated prevalence of 1 in 200-500 cases that poses a significant threat to young adults and athletes. The genetic basis of HCM involves sequence variations in several genes that encode proteins of the thick and thin cardiac myofilaments which are responsible for the contraction of the cardiac sarcomere. Pathogenic mutations that cause hypertrophic cardiomyopathy are transmitted in an autosomal dominant pattern. HCM is generally stratified into obstructive (about 70%) and non-obstructive hypertrophic cardiomyopathy. Clinical manifestation of HCM can range from asymptomatic to drug-refractory advanced heart failure. Mavacamten is a first-in-class myosin inhibiting drug that has progressed through in vitro studies. It has shown promising results in patients with symptomatic hypertrophic obstructive cardiomyopathy.

Objectives: The purpose of this study was to conduct a systematic evaluation and outcome assessment of published and on-going studies of Mavacamten therapy to treat HCM. **Methods:** The databases PubMed, EMBASE, Clinicaltrials.gov, and Medline were searched with keywords for the existing literature on Mavacamten for treating HCM. Cross-referencing was used to determine the eligibility of retrieved articles and to identify biases.

Results: A total of 1066 studies were found in an initial keyword search. These articles were then subjected to an eligibility criterion to ensure relevance to the review objectives. Stratification of possible publications identified 9 studies for

inclusion in the review, including randomized clinical trials, Clinical Trials, and ongoing Trials. A meta-analysis of probable Mavacamten outcomes was then undertaken using the Cochrane Meta-analytic Tool, with the results visualized as forest plots and a narrative table.

Conclusion: Treatment of symptomatic obstructive cardiomyopathy with Mavacamten significantly impacted primary outcomes, such as improved left ventricular obstruction tract gradient and increased peak oxygen consumption, as well as secondary outcomes, such as improved exercise resilience, reduced NYHA classes, increased life-years, and improved overall quality of life.

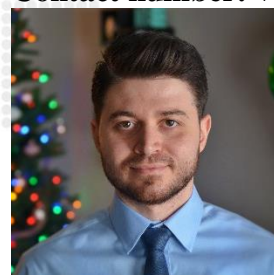
BIOGRAPHY

Ziad Affas Is an Internal Medicine Resident PGY-2 at Henry Ford Macomb Hospital/ Michigan/USA, Graduated from Hawler Medical University (HMU) in Iraq. Interested in Cardiology and cardiovascular diseases. I'm currently working on more than 15 research projects including multiple meta-analysis, Retrospective studies, case-reports and One retrospective Trial.

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