INPLASY

Electrophysiologic Characteristics, Outcomes and Potential Predictors of Acute Success After Ventricular Tachycardia Ablation in Patients with Cardiac Sarcoidosis: Systematic Literature Review and Meta-Analysis

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ADMINISTRATIVE INFORMATION

Support - None.

Review Stage at time of this submission - Data analysis.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202480064

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 13 August 2024 and was last updated on 13 August 2024.

INTRODUCTION

Review question / Objective The aim of this systematic review is to describe patient characteristics, as well as electrophysiologic and procedural parameters, of patients with cardiac sarcoidosis who underwent ventricular tachycardia ablation. Additionally, we will conduct an exploratory analysis to identify potential baseline and procedural characteristics associated with acute ablation success.

Rationale Cardiac sarcoidosis (CS) is a rare condition marked by conduction disturbances, and ventricular tachycardia (VT) resulting from reentrant pathways. VT ablation is typically considered for patients with refractory VT. This systematic review aims to synthesize reported outcomes and identify potential predictors for the success of VT ablation in CS patients.

Condition being studied Cardiac sarcoidosis.

METHODS

Search strategy We conducted a literature search on MEDLINE/PubMed, Embase, Scopus, and Cochrane Central Register of Controlled Trials up to April 2024. The search included the following terms: ("sarcoidosis" OR "sarcoid") AND ("ablation") AND ("ventricular"). In addition, a manual search of the reference lists of the included articles was performed.

Participant or population Patients with cardiac sarcoidosis.

Intervention Ventricular tachycardia catheter ablation.

Comparator None.

Study designs to be included Observational studies.

Eligibility criteria Studies of patients with ventricular tachycardia and cardiac sarcoidosis diagnosis who underwent VT ablation. Studies must report ablation characteristics and success rates.

Information sources MEDLINE/PubMed, Embase, Scopus, and Cochrane Central Register of Controlled Trials.

Main outcome(s) Acute procedure success and long term success.

Additional outcome(s) Procedure characteristics, including the number and morphology of induced ventricular tachycardia, epicardial or endocardial mapping and ablation; clinical presentation before ablation; prevalence of active inflammation or scar tissue as defined by PET scan and CMR, respectively.

Data management Data will be extracted and collected in an Excel spreadsheet.

Quality assessment / Risk of bias analysis Newcastle-Ottawa Scale for cohort studies.

Strategy of data synthesis R software will be used for analysis. A proportion meta analysis for prevalences will be performed. Odds ratio, mean difference will be used as the statistics for effect analysis. Heterogeneity among the included studies will be analyzed using the I2 index. A random-effect model will be used. The level of significance for the meta-analysis will be set at $\alpha = 0.05$.

Subgroup analysis No subgroup analysis will be performed.

Sensitivity analysis Sensitivity analysis will be performed on R aiming to examine how the results of the meta-analysis vary when modifications are made to the methodology or the selection of studies.

Language restriction None.

Country(ies) involved Colombia, US.

Keywords Cardiac sarcoidosis; Ventricular tachycardia; Catheter ablation.

Contributions of each author

Author 1 - Juan F Rodriguez - Study design, conceptualization, literature search, data extraction, quality assessment, statistical analysis, interpretation of results, and manuscript writing.

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Author 3 - Rajvi Gajendra Chaudhary - Literature search.

Author 4 - Hema Srikanth Vemulapalli - Conceptualization.

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