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**Predictive and prognostic molecular biomarkers  
of peripartum cardiomyopathy: a scoping review  
protocol**

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**ADMINISTRATIVE INFORMATION**

**Support** - None.  
**Review Stage at time of this submission** - Data extraction.  
**Conflicts of interest** - None declared.

**INPLASY registration number:** INPLASY202410056

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

**INTRODUCTION**

**Review question / Objective** The aim of this scoping review is to describe and characterize the molecular biomarkers that have been used to predict or prognosticate longer term outcomes in patients with peripartum cardiomyopathy and quantify their predictive and prognostic value.

**Background** Peripartum cardiomyopathy (PPCM) is a rare cardiomyopathy marked by systolic dysfunction that presents in late pregnancy or in the first few months postpartum (1). Diagnosis of PPCM is challenging as its early clinical features often mirror some physiologic changes encountered in the latter part of pregnancy and the early postpartum period. Although some clinical and socio-demographic risk factors have been identified (2), and the role of molecular biomarkers is being studied in various contexts (3), the precise role of these biomarkers in isolation or as part of predictive or prognostic tools remains to be established.

**Rationale** The rationale of this scoping review is to synthesize the current literature to identify and if possible, quantify the accuracy of predictive and prognostic molecular biomarkers of PPCM. We will conduct this scoping review based on the framework established by Arksey and O'Malley (4), and will report it in accordance with the PRISMA extension for Scoping Reviews (5).

**METHODS**

**Strategy of data synthesis** Literature searches were done after development of a comprehensive search strategy by a medical information specialist. The search strategy included controlled vocabulary (medical subject headings/Emtree) terms and keywords / free text terms related to cardiomyopathy, heart failure, peripartum period, and biomarkers to retrieve relevant records. No limitations were applied with regards to age, language, and publication year.

**Eligibility criteria** Both experimental and non-experimental original research studies including randomized controlled studies and observational studies published in between inception and May 2023 will be included. All case reports, commentaries, editorials, guidelines, opinion papers, systematic reviews, meta-analyses, and narrative reviews will be excluded. However, their reference lists will be reviewed for original research studies that fulfill the inclusion criteria.

#### Source of evidence screening and selection

The following databases were searched from inception to May 10, 2023 using a comprehensive search strategy designed by a librarian (MH) according to the 2015 PRESS Guidelines (6): Ovid MEDLINE, Ovid Embase, Ovid EBM Reviews – Cochrane Database of Systematic Reviews, Ovid EBM Reviews – Cochrane Database of Clinical Trials, PubMed, Clarivate Web of Science, ProQuest Dissertations and Theses Global, and Global Index Medicus. The first 200 results from Google Scholar were also extracted using the Publish or Perish application (7). Two of the authors independently reviewed the title and abstract to check inclusion and exclusion criteria. Any disagreements were resolved by discussion or consulting a third author. Relevant studies were reviewed in full by one author. This method aims to ensure a thorough and consistent review process. A PRISMA flow diagram will be used to illustrate the selection process.

**Data management** All references and duplicate records were managed and screened using EndNote citation management software and Distiller systematic review software.

**Language restriction** No language restriction will be imposed in the search strategy.

**Country(ies) involved** The review will be carried out in Canada, Department of Obstetrics and Gynaecology McMaster University.

**Keywords** Peripartum cardiomyopathy, postpartum cardiomyopathy, biomarkers, diagnostic biomarkers, prognostic biomarkers, heart failure.

**Dissemination plans** The results of the scoping review will be published in an open access academic journal with a global readership. The results will also be presented in national and international conferences (Cardiac and Obstetrics and Gynaecology).

#### Contributions of each author

Author 1 - Yasaman Javadzadeh - Designing the review, data collection, analysis, and interpretation, and drafting the manuscript.

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Author 6 - Rohan D'Souza - Coordinating and designing the review, data interpretation, and reviewing and editing the manuscript.

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