**COMPARISON BETWEEN CUSTODIOL, DEL NIDO AND MODIFIED DEL NIDO IN THE MYOCARDIAL PROTECTION - CARDIOPLEGIA TRIAL: A STUDY PROTOCOL FOR A RANDOMISED, DOUBLE-BLIND CLINICAL TRIAL**

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**Resumo:** Introduction: Myocardial protection is essential for successful cardiac surgery, and the search for an ideal cardioplegic solution has continued since its beginning. In this context, Custodiol, del Nido and modified del Nido are single-dose cardioplegic solutions with good safety profiles and great relevance in modern surgical practice. While these solutions have all been evaluated for their impact on patient outcomes independently, limited research exists comparing them directly. Thus, the present study aims to examine the effects of these cardioplegic solutions on myocardial protection and clinical outcomes in adult patients undergoing elective cardiac surgery. The assessment of the increase in myocardial injury biomarkers in patients submitted to all treatment methods may be considered a major strength of our study. Methods and analysis: This is a clinical trial study protocol that will compare myocardial protection and clinical outcomes among three patient groups based on which cardioplegic solution was used. Patients will be randomised to receive del Nido (n=30), modified del Nido (n=30) or Custodiol (n=30). Myocardial injury biomarkers will be measured at the baseline and 2 hours, 12 hours and 24 hours after the cardiopulmonary bypass. Clinical outcomes will be assessed during the trans operative period and the intensive care unit stay, in addition to other haematological parameters. Ethics and dissemination: This protocol and its related documents were approved by the Research Ethics Committee of the Hospital Nossa Senhora da Conceição, Brazil, registered under no. 4.029.545. The findings of this study will be published in a peer-reviewed journal in the related field. Trial registration number: RBR-7g5s66.

Keywords: cardiac surgery; coronary heart disease; valvular heart disease.