

Comparison of the efficacy of Mitraclip in functional versus degenerative mitral regurgitation: A systematic review and meta-analysis

INPLASY202460014

doi: 10.37766/inplasy2024.6.0014

Received: 04 June 2024

Published: 04 June 2024

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ADMINISTRATIVE INFORMATION

Support - Natural Science Foundation of Gansu Province (22JR11RA037); Educational Science and Technology Innovation Program of Gansu province (2022B-018); Hospital Fund of the First Hospital of Lanzhou University (dyyyyn2022-40).

Review Stage at time of this submission - Completed but not published.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202460014

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 04 June 2024 and was last updated on 04 June 2024.

INTRODUCTION

Review question / Objective The aim of this paper was to systematically evaluate the differences in efficacy and outcomes between patients with functional mitral regurgitation (SMR) and degenerative mitral regurgitation (DMR) treated with mitral Edge-to-Edge repair (TEER) using MitraClip.

Condition being studied Single-center (multicenter) prospective (retrospective) cohort studies.

METHODS

Participant or population Patients with functional mitral regurgitation (SMR) and degenerative mitral regurgitation (DMR).

Intervention SMR treated with MitraClip.

Comparator DMR treated with MitraClip.

Study designs to be included Cohort study.

Eligibility criteria The efficacy of the MitraClip in the treatment of MR has been demonstrated, with significant improvement in reflux, reduced recurrence and reoperation rates EVEREST II demonstrated that the MitraClip is effective due to conventional treatment methods.

Information sources PubMed, EMBASE, the Cochrane library, Web of Science, China Biomedical Literature Database, China Knowledge Network, Wanfang, and vip databases.

Main outcome(s) All-cause mortality; 1-year heart failure readmission; procedural success; number of

intraprocedural clip implants; postprocedural mitral transvalvular pressure difference; secondary open-heart treatment; re-catheterization intervention.

Quality assessment / Risk of bias analysis

Newcastle-Ottawa Scale, NOS.

Strategy of data synthesis Stata 18.0 software was used to perform Meta-analysis, and when the P value was >0.10 and $I^2 \leq 50\%$, it was considered that there was no statistically significant heterogeneity among the included studies, and Meta-analysis was performed using the fixed-effects model. Conversely, when there was significant heterogeneity among the included studies, Meta-analysis was performed using a random-effects model, and the source of heterogeneity was explored using subgroup analyses or sensitivity analyses using the one-by-one exclusion method, or descriptive analyses only.

Subgroup analysis All-cause deaths were analyzed according to time of presentation categorized as 30 days versus one year, and according to subsequent reoperations categorized as secondary interventions versus secondary open-heart.

Sensitivity analysis Sensitivity analysis using STATA using case-by-case exclusion of independent studies.

Country(ies) involved China.

Keywords Transcatheter Mitral Edge-to-Edge Repair; MitraClip; Functional mitral regurgitation; Degenerative mitral regurgitation; Systematic evaluation/Meta-analysis.

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