

## Comments on "Systematic Review and Meta-Analysis of Comparative Studies: Transcatheter Versus Surgical Closure for Postinfarct Ventricular Septal Defect"

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### 1. Introduction

I am impressed by the meta-analysis conducted by Yamaguchi et al. which compares transcatheter with surgical closure of postinfarct ventricular septal defect (PIVSD). This is a promising investigation of the key role of minimally invasive interventions against conventional surgery, which is the topic of the investigation. The authors could not find any short-term mortality differences, but they noticed a higher residual shunt/reintervention rate in the transcatheter group. Contrary to that, their analysis also uncovers significant draws that need to be examined further.

Dependence on non-randomized, observational studies is a limiting factor of this internal validity. Notably, although the short-term mortality findings are encouraging, they fall short of the strength of evidence typically associated with randomized controlled trials (RCTs). The 7.8% crossover rate could have risked the results, as the selection bias might have run the comparative efficacy benignly [1]. Either a randomized trial or a propensity-matched study might have resulted in a more dependable evaluation.

Another issue is the significant variation in patient features, particularly PIVSD size. The smaller defect sizes in the transcatheter group may confound mortality and complication rates. Research shows that smaller defects lead to an improved outcome with transcatheter closures, making it important to consider defect

size as a criteria for treatment option. Using stratified analyses to address this heterogeneity may improve the data' interpretability [2].

Yamaguchi et al. suggest that surgical closure is the primary choice for patients who are eligible. This recommendation is consistent with other research that states that residual shunt rates are lower in surgical operations [3]. However, bearing in mind the advantages that transcatheter closure may have for those who are high-risk, like decreased invasiveness and faster recovery, a closer examination into the stratification criteria of patients is a priority.

### References

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