

# Perioperative Cardiac Events Following Bariatric Surgery: A Meta-Analysis of Nearly One Million Patients Reveals Procedure-Specific Risks - On Behalf of TROGSS



## Background

This study aimed to determine the incidence of postoperative myocardial infraction (**PMI**) across different types of metabolic and bariatric surgery (MBS) procedures and to identify associated risk factors.

## Methods

A systematic review and meta-analysis was conducted with articles publish up to March 2025. Studies reporting the incidence of PMI in patients undergoing any bariatric procedure were included. Studies with overlapping populations were excluded. Binary endpoint effects were compared using pooled odds ratios (OR) with 95% confidence intervals (CI), employing a random-effects model.



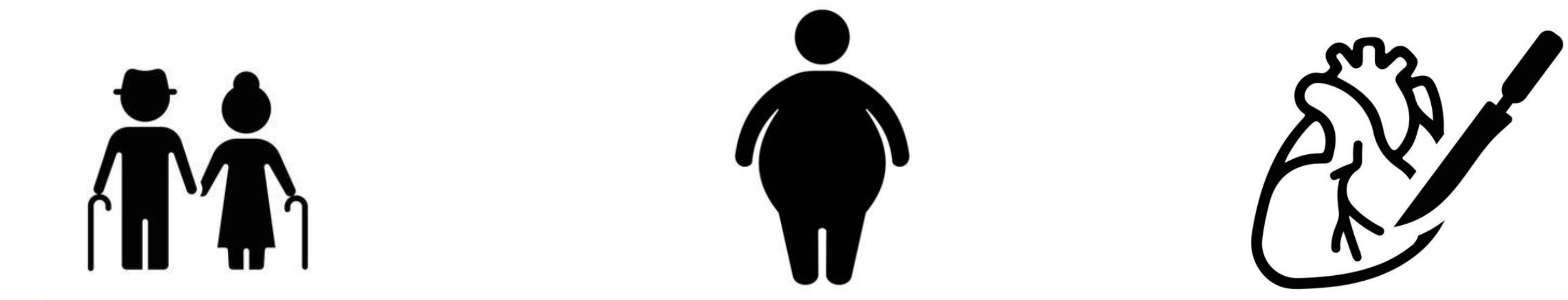
- 2,497 records
- 27 studies included
- **976,903 patients**

Mean age  
48.6 years  
Female 72.6 %

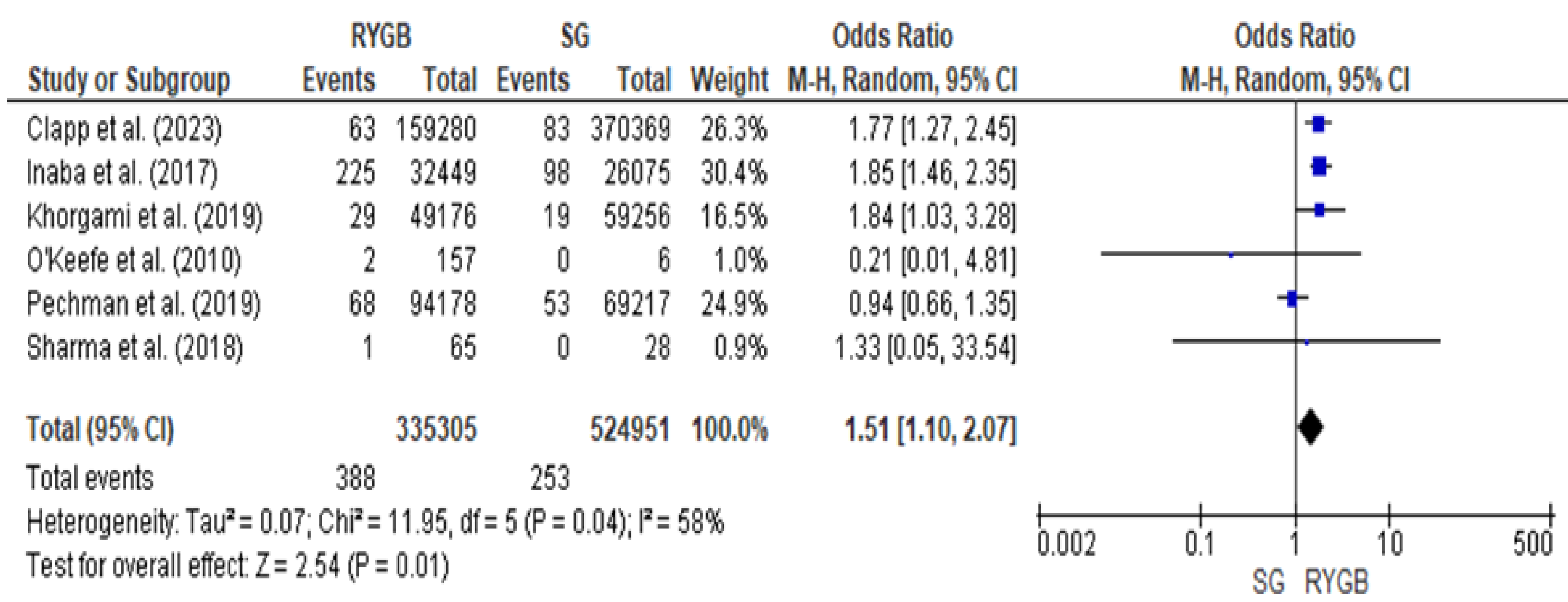
## Results

A total of **855 PMIs** were recorded, representing a pooled incidence of **0.193%** (95% CI=0.18-0.2)

The incidence of PMI was positively correlated with mean patient **age** (r = 0.417, p = 0.043), mean **BMI** (r = 0.578, p = 0.005), and a history of **cardiac surgery** (r = 0.883, p = 0.008).



Patients undergoing **RYGB** had a **higher risk of PMI** compared to those undergoing SG (OR=1.51, 95% CI=1.10–2.07).



The incidence of PMI was lower in studies involving patients from the USA compared to those from other countries (0.081% vs. 0.4%, p < 0.001).



## Conclusion

Perioperative myocardial infarction is an important complication following MBS despite its low incidence. The frequency of PMI is lower among the USA bariatric patients compared to those from other countries. Factors such as age, higher BMI, a history of cardiac surgery, and undergoing RYGB instead of SG are associated with an increased risk of PMI.

