

Main Takeaway:

Minimally invasive approaches to Pancreaticoduodenectomy are equivalent in safety metrics, post-operative outcomes and oncologic efficacy with decreased intraoperative blood loss compared to open techniques.

INTRODUCTION

OPEN PANCREATICODUODENECTOMY(PD) HAS HISTORICALLY BEEN USED FOR PANCREATIC HEAD AND PERIAMPULLARY LESIONS BUT MINIMALLY INVASIVE (MIS) APPROACHES ARE BECOMING INCREASINGLY UTILIZED.

AIM

PERFORM A META ANALYSIS TO COMPARE OPEN V. MIS PANCREATICODUODENECTOMY OUTCOMES INCLUDING INTRAOPERATIVE METRICS, PERIOPERATIVE COMPLICATIONS, ONCOLOGIC EFFICACY AND OUTCOMES.

METHODS

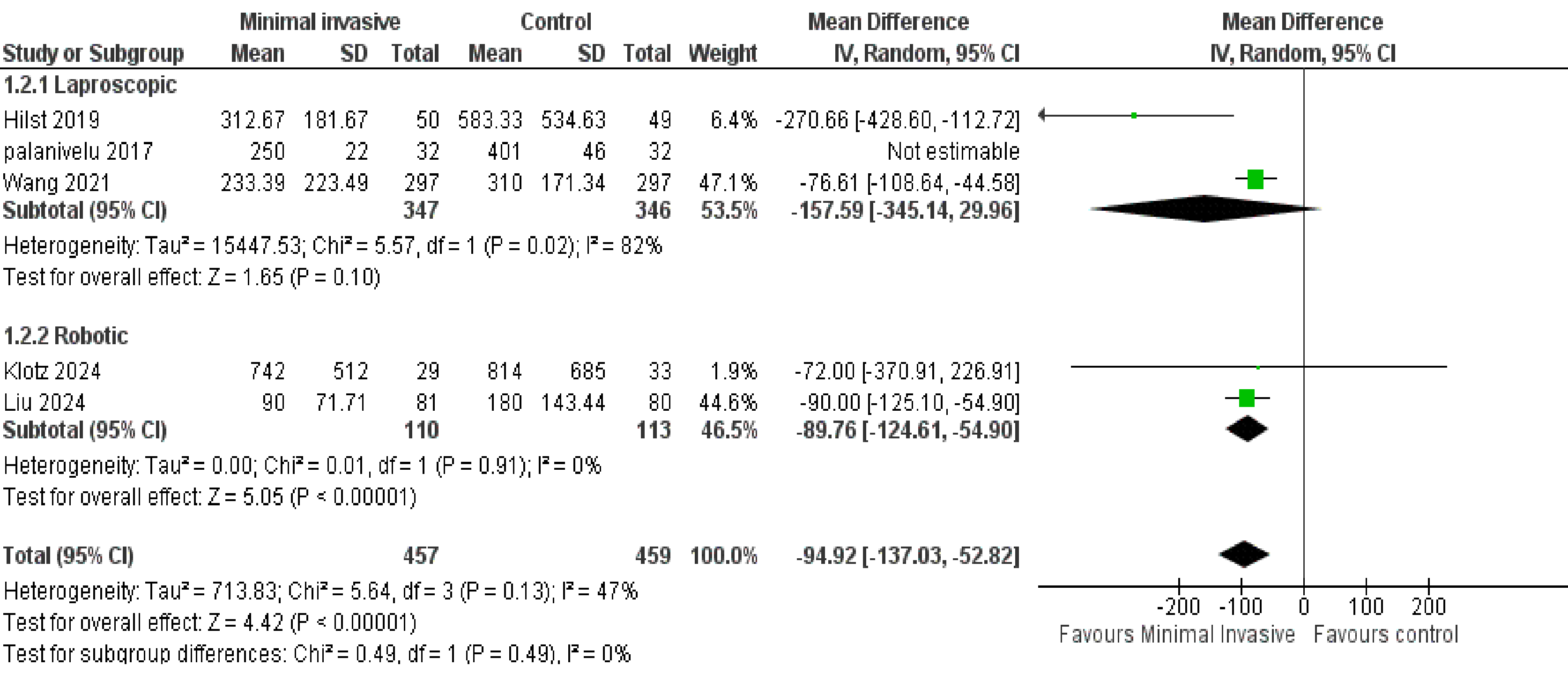
USING COCHRANE REVIEW AND PRISMA GUIDELINES, PROSPERO REGISTRATION ID: [CRD420251101575] COMPARED RANDOMIZED CONTROL TRIALS (RCT) COMPARING OPEN V MIS PD FOR BENIGN OR MALIGANT PANCREATIC AND PERIAMPULLARY LESIONS THROUGH JULY 2025.

PRIMARY OUTCOMES: 90-DAY POSTOPERATIVE MORTALITY, INTRAOPERATIVE BLOOD LOSS, AND OPERATIVE TIME.

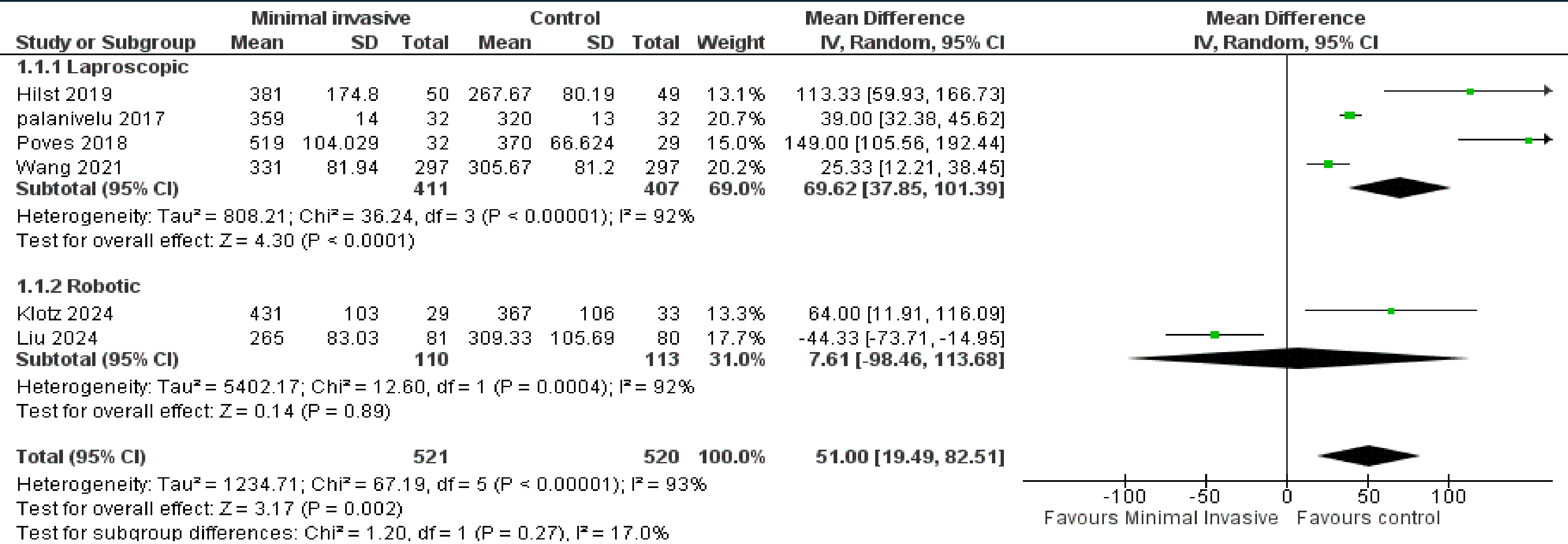
SECONDARY OUTCOMES: DELAYED GASTRIC EMPTYING, LYMPH NODE YIELD, LENGTH OF HOSPITAL STAY, CLAVIEN-DINDO GRADE ≥III COMPLICATIONS, R0 RESECTION RATE, AND POSTOPERATIVE PANCREATIC FISTULA.

RESULTS

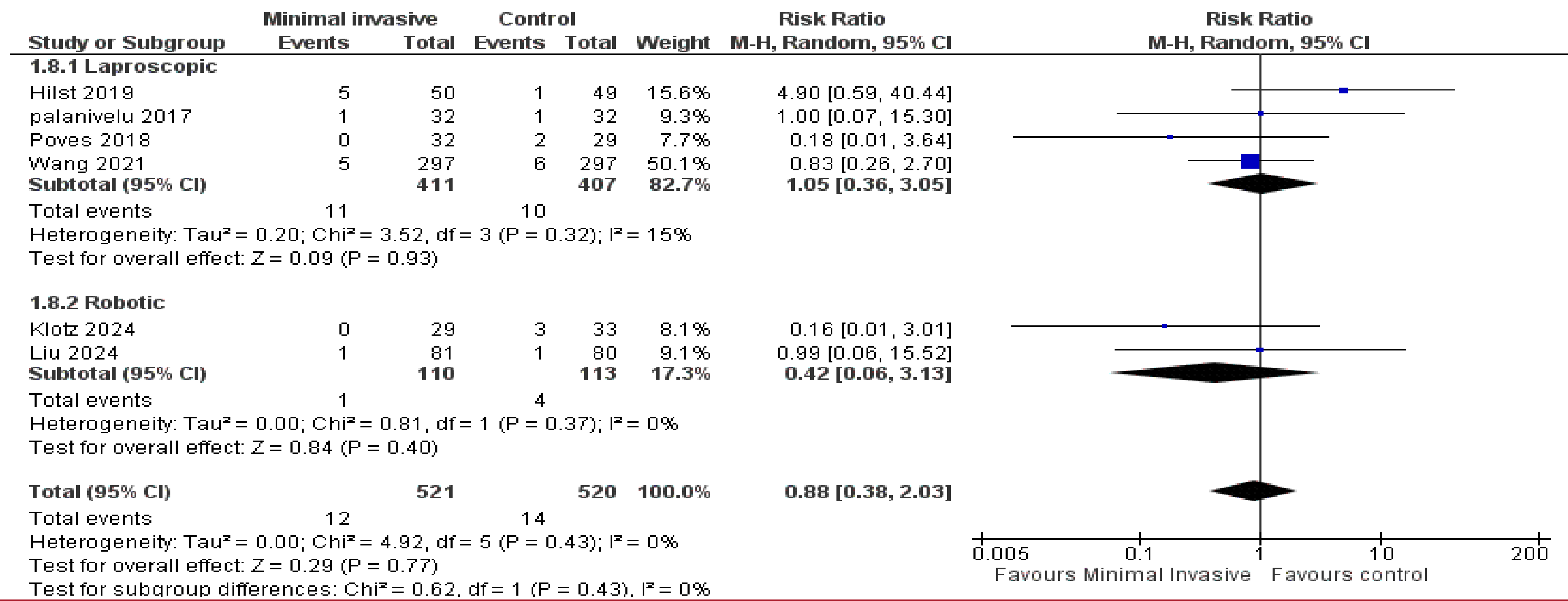
- 6 ARTICLES MET INCLUSION CRITERIA (MIS COMPARISON: 4 LAPAROSCOPIC, 2 ROBOTIC)
- 1041 PATIENTS (521 MIS, 520 OPEN)
- AGE 50-70, MALE 56%, BMI 22-27 kg/m², ASA II-III
- NO DIFFERENCE IN 90 DAY MORTALITY, CLAVIEN-DINDO GRADE ≥III COMPLICATIONS, PANCREATIC FISTULA, DELAYED GASTRIC EMPTYING, HOSPITAL LENGTH OF STAY OR R0 RESECTION
- MIS LESS INTRAOPERATIVE BLOOD LOSS (-130.74 mL, p<0.00001)
- MIS LONGER OPERATIVE TIME (51 minutes, p=.002, LAPAROSCOPIC ONLY)
- LESS LYMPH NODE YIELD MIS V. OPEN (.2 LNs LESS, p= .01, NOT CLINICALLY SIGNIFICANT)



Forest plot of subgroup analysis of blood loss(mL)



Forest plot of subgroup analysis of operative time



Forest plot of subgroup analysis of 90-day mortality

CONCLUSION

- MIS IS AS SAFE AS OPEN WHIPPLE
- LESS BLOOD LOSS USING MIS TECHNIQUES
- LAPAROSCOPIC LONGER OPERATIVE TIME, ROBOTIC AND OPEN EQUIVALENT
- EQUIVALENT 90 DAY MORTALITY
- ONCOLOGIC EQUIVALENCE, SIMILAR LYMPH NODE YIELD AND SAME R0 RATE