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Laparoscopic Total Mesorectal Excision with Transanal dissection vs Laparoscopic Total Mesorectal Excision: Systematic Review and Meta-analysis of Randomized Controlled Trials

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INTRODUCTION

Since the introduction of taTME in 2010 by Sylla et al, the approach has been increasingly used for the excision of lower rectal cancers. However, the studies comparing taTME to LaTME are limited. For this reason, we decided to perform a meta-analysis to compare the two approaches based on evidence from randomized controlled trials (RCTs).

METHODS

We performed a systematic literature search of PubMed/Medline, Cochrane Library, ClinicalTrials.gov and Google Scholar, to identify RCTs comparing taTME and LaTME. The systematic review was conducted using the reporting items for systematic reviews and meta-analyses guidelines (PRISMA). Meta-analysis was performed using R software (version 4.3.2) with the meta package for frequentist models. Results were synthesized as odds ratios (OR) or mean differences (MD) with 95% confidence intervals (CI), and heterogeneity was assessed using the I^2 statistic. Risk of bias was assessed using the National Institutes of Health (NIH) Quality Assessment Tool for controlled intervention studies.

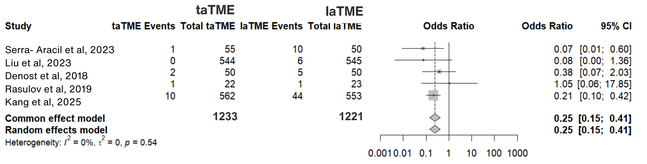
RESULTS

Conversion rates were 75% lower for taTME (p<0.0001), and hospital stay was significantly shorter for taTME (p =0.0004). There was no statistically significant difference for anastomotic leaks (p=0.093) and overall complication rates (p=0.5264), and only 3 cases of urethra injury were reported for taTME. Local recurrence and major complication rates showed no significant differences between the groups (p=0.83, p=0.6746, respectively). Mortality (p=0.4392), operative time (p=0.5609) and reoperation rates (p=0.6437) were not significantly different.

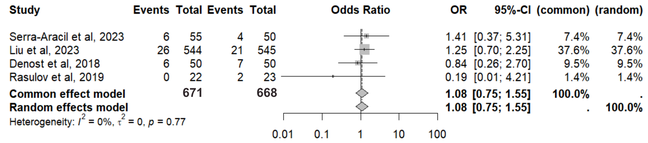
CONCLUSION

TaTME was associated with lower conversion rates to open surgery and shorter hospital stay compared to LaTME. However, the literature remains limited and further research is needed to clarify the further benefits and limitations of taTME.

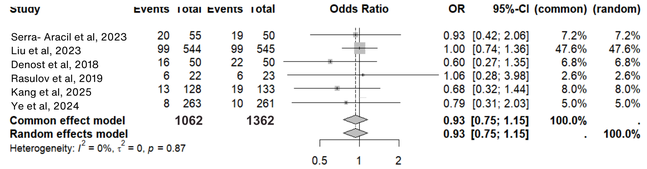
Conversions



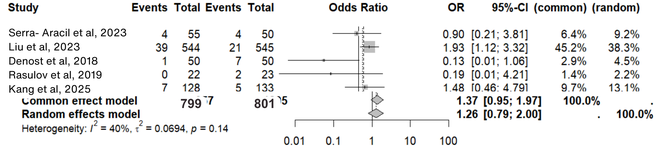
Major Complications



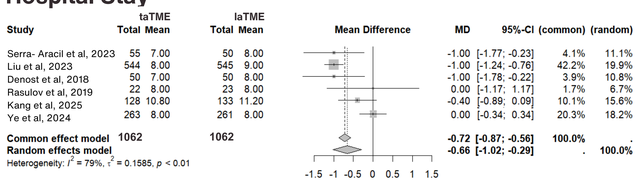
Overall Complications



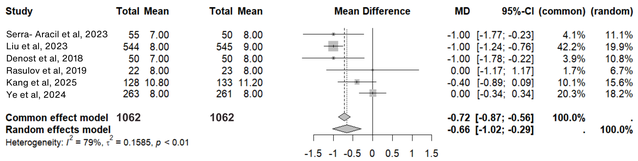
Anastomotic Leak



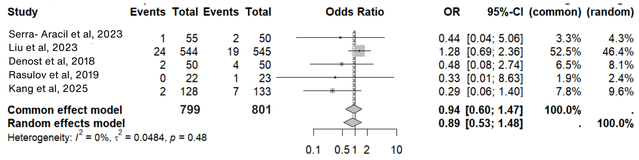
Hospital Stay



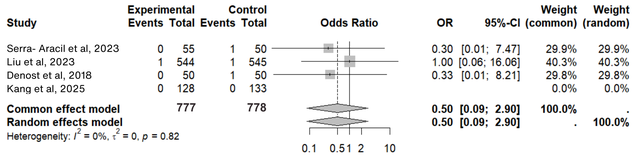
Operative Time



Reoperation



Mortality



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