AB017. SOH21AS078. Surgical approach for rectal cancer: a network meta-analysis comparing open, laparoscopic, robotic and transanal total mesorectal excision (TME) approaches

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Background: The optimal approach for total mesorectal excision (TME) of rectal cancer remains controversial. Aim: To compare short- and long-term outcomes after open (OpTME), laparoscopic (LapTME), robotic (RoTME) and transanal TME (TaTME).
Methods: A systematic search of electronic databases was performed up to January 1 2020 for randomized controlled trials (RCTs) comparing at least 2 TME strategies. A Bayesian arm-based random effect network meta-analysis (NMA) was performed, specifically, a mixed treatment comparison (MTC).
Results: Thirty RCTs (and six updates) of 5,586 patients with rectal cancer were included. No significant differences were identified in recurrence rates or survival rates. Operating time was shorter with OpTME [surface under the cumulative ranking curve (SUCRA) 0.96] compared to LapTME, RoTME and TaTME. Although OpTME was associated with the most blood loss (SUCRA 0.90) and had a slower recovery with increased length of stay (SUCRA 0.90) compared to the minimally invasive techniques, there was no difference in postoperative morbidity. OpTME was associated with a more complete TME specimen compared to LapTME [risk ratio (RR) 1.05, 95% credible interval (CrI) 1.01, 1.11], and TaTME had less involved circumferential resection margins (CRMs) (RR 0.173, 95% CrI 0.02, 0.76) versus LapTME. There were no differences between the modalities in terms of deep TME defects, DRM distance, or lymph node yield.
Conclusions: While OpTME was the most effective TME modality for short term histopathological resection quality, there was no difference in long-term oncologic outcomes. Minimally invasive approaches enhance postoperative recovery, at the cost of longer operating times. Technique selection should be based on individual tumour characteristics and patient expectations, as well as surgeon and institutional expertise.
Keywords: Rectal cancer; surgical techniques; surgical outcomes; survival

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Footnote

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