AB031. SOH23ABS_203. A systematic review and network meta-analysis of minimally invasive approaches to the management of early rectal neoplasms

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Background: Several minimally invasive techniques have developed over the recent past for curative management of early rectal cancer (ERC). However, an optimal approach with regards to both oncological outcomes and associated morbidity remains unclear.
Methods: A systematic literature search was conducted comparing studies with at least two of the above techniques. A network meta-analysis with a frequentist framework was then performed. Endoscopic mucosal resection (EMR) was then used as a baseline comparator. The pre-specified primary outcomes were; *en bloc* resection, R0 resection and recurrence rates.
Results: The analysis included 40 papers, with 4,620 patients included. All included techniques had higher *en bloc* excision rates versus EMR. Higher R0 resection rates were noted with both; endoscopic submucosal dissection (ESD) (OR 1.79; 95% CI: 1.08–2.97) and transanal endoscopic microsurgery (TEMS) (OR 2.78; 95% CI: 1.22–6.36). TEMS (OR 0.28, 95% CI: 0.11–0.71) and transanal minimally invasive surgery (TAMIS) (OR 0.22; 95% CI: 0.06–0.84) had reduced recurrence rates versus EMR. Increased duration of surgery was observed with TEMS (MD 20.96; 95% CI: 5.91–36.00 minutes) and ESD (MD 10.7; 95% CI: 3.9–17.5 minutes). ESD, transanal excision (TAE) and TEMS were associated with an increased duration of in-hospital stay compared to EMR and TAMIS.
Conclusions: EMR had the worst *en bloc* resection rate of all evaluated techniques for excision of ERC. TEMS and TAMIS displayed improved recurrence free rates compared to endoscopic techniques and TAE for ERC. The potential oncologic benefit of TEMS and TAMIS for ERC would suggest these findings should be investigated in prospective studies of higher methodological quality and larger patient cohort.
Keywords: Endoscopic mucosal resection (EMR); endoscopic submucosal dissection (ESD); transanal surgery; early rectal cancer (ERC); minimally invasive surgery

Acknowledgments

Funding: None.

Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

doi: 10.21037/map-23-ab031
Cite this abstract as: Donnelly M, Naughton A, Whelan M, Neary P, O'Riordain J, Kavanagh D. AB031. SOH23ABS_203. A systematic review and network meta-analysis of minimally invasive approaches to the management of early rectal neoplasms. Mesentery Peritoneum 2023;7:AB031.