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Residual Mesorectum on Postoperative Magnetic Resonance Imaging Following Transanal Total Mesorectal Excision (TaTME) and Laparoscopic Total Mesorectal Excision (LapTME) in Rectal Cancer

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Abstract

Background: The standard treatment for mid- and low-rectal cancer is total mesorectal excision. Incomplete excision is an important predictor of local recurrence after rectal cancer surgery. Transanal TME (TaTME) is a new treatment option in which the rectum is approached with both laparoscopic and transanal endoscopic techniques. The aim of the present study was to determine the prevalence and localisation of residual mesorectal tissue by postoperative magnetic resonance imaging (MRI) of the pelvis and compare this between TaTME and laparoscopic TME (LapTME) patients. In addition, we assessed correspondence with histopathological quality.

Methods: Two groups of patients with cT1-T3 rectal cancer who underwent TME surgery with primary anastomosis were included, each group consisting of 32 patients. Postoperative T2-weighted MRI of the pelvis was performed at least 6 months after TME surgery and evaluated by two radiologists independently. Residual mesorectum was defined as any residual mesorectal tissue detectable after TME. Localisation of the tissue was categorised in relation to height in the pelvis and position of the level of anastomosis.

Results: Residual mesorectal tissue was detected in 3.1% of TaTME patients and of 46.9% in LapTME patients ($p < 0.001$). Multivariate analysis identified only type of surgery as a significant risk factor for leaving residual mesorectum. Other known risk factors for incomplete TME, such as body mass index (BMI) and male gender, were not significant. No relation was seen between specimen quality and prevalence of residual mesorectum.

Conclusions: The completeness of mesorectal excision was significantly better with TaTME than with standard laparoscopic technique.