



THE IMPACT OF ROBOTIC TOTAL MESORECTAL EXCISION ON SURVIVAL IN PATIENTS WITH RECTAL CANCER – A PROPENSITY MATCHED ANALYSIS

Filippos Sagias

Shahid Beheshti University of Medical Sciences, Tehran, Iran

Abstract:

INTRODUCTION: Robotic surgery can overcome some limitations of Laparoscopic Total Mesorectal Excision (L-TME), improving the quality of the surgery. We aim to compare the medium-term oncological outcomes of L-TME vs. Robotic Total Mesorectal Excision (R-TME) for rectal cancer. **METHODS** A retrospective analysis was performed including patients who underwent L-TME or R-TME between 2011-2017. Patients presenting with metastatic disease or R1 resection were excluded. From a total of 680 patients, 136 cases of R-TME were matched based on age, gender, stage and time of follow-up with an equal number of patients who underwent L-TME. We compared 3-year disease free survival (DFS) and overall survival (OS). **RESULTS** Major complications were lower in the robotic group (13.2% vs. 22.8%, $p=0.04$), highlighting the anastomotic leakage rate (7.4% vs. 16.9%, $p=0.01$). The 3-year DFS rate for all stages was 69% for L-TME and 84% for R-TME ($p=0.02$). For disease stage III, 3-year DFS was significantly higher in the R-TME group. OS was also significantly superior in the robotic group for every stage, reaching 86% in stage III. In the multivariate analysis, R-TME was a significant positive prognostic factor for distant metastasis (OR 0.2 95%CI 0.1, 0.6, $p=0.001$) and OS (OR 0.2 95%CI 0.07, 0.4, $p=0.000$). Moreover, major complications were also found to have a negative impact on OS (OR 8.3 95% CI 3.2, 21.6, $p=0.000$). **CONCLUSION** R-TME for rectal cancer can achieve better oncological outcomes compared to L-TME, especially in stage III rectal cancers.

INTRODUCTION: Robotic surgery can overcome some limitations of Laparoscopic Total Mesorectal Excision (L-TME), improving the quality of the surgery. We aim to compare the medium-term oncological outcomes of L-TME vs. Robotic Total Mesorectal Excision (R-TME) for rectal cancer. **METHODS** A retrospective analysis



was performed including patients who underwent L-TME or R-TME between 2011-2017. Patients presenting with metastatic disease or R1 resection were excluded. From a total of 680 patients, 136 cases of R-TME were matched based on age, gender, stage and time of follow-up with an equal number of patients who underwent L-TME. We compared 3-year disease free survival (DFS) and overall survival (OS). **RESULTS** Major complications were lower in the robotic group (13.2% vs. 22.8%, $p=0.04$), highlighting the anastomotic leakage rate (7.4% vs. 16.9%, $p=0.01$). The 3-year DFS rate for all stages was 69% for L-TME and 84% for R-TME ($p=0.02$). For disease stage III, 3-year DFS was significantly higher in the R-TME group. OS was also significantly superior in the robotic group for every stage, reaching 86% in stage III. In the multivariate analysis, R-TME was a significant positive prognostic factor for distant metastasis (OR 0.2 95%CI 0.1, 0.6, $p=0.001$) and OS (OR 0.2 95%CI 0.07, 0.4, $p=0.000$). Moreover, major complications were also found to have a negative impact on OS (OR 8.3 95% CI 3.2, 21.6, $p=0.000$). **CONCLUSION** R-TME for rectal cancer can achieve better oncological outcomes compared to L-TME, especially in stage III rectal cancers. However, a longer follow-up period is needed to confirm these findings.

Current and Future Trends in Surgery, April 27-28, 2020, New York, USA

Citation: Robotic surgery; laparoscopic surgery; rectal cancer; oncologic outcome; total mesorectal excision; survival.