

Propensity Score-Matched Analysis of Minimal Invasive Surgery versus Open Surgery for Colorectal Cancer in Older Patients

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Abstract

Introduction: Currently, surgeons deal with an older patient cohort, confronting new challenges brought by the raised life expectancy. This population is unrepresented in surgical trials; therefore, the optimal therapy is still a matter of debate. The efficacy of open versus minimal invasive management of colorectal cancer (CRC) in an elderly cohort is not clearly established. The current study assesses the minimal invasive approach in elderly patients undergoing colorectal surgery.

Material and Methods: The General Surgery Department database was inquired between 2012 and 2015 using the following filters: age ≥ 65 and rectal or colon adenocarcinoma. After applying the exclusion criteria, 975 cases were obtained: 842 underwent open surgery (OS) and 133 underwent minimal invasive surgery (MIS). A propensity score matching was performed to reduce patient selection bias.

Results: After the propensity score matching, the MIS group had a shorter postoperative hospital stay than the OS group ($p = 0.025$). From the preoperative variables, the presence of chronic lung disease was significantly higher in the OS group ($p = 0.039$). The presence of chronic lung disease positively associates with the Clavien-Dindo classification ($p < 0.001$) and with the number of days from surgery to discharge ($p = 0.028$).

Conclusion: The chronological age alone should not be a limit to MIS granting that it showed no inferiority to the OS in terms of postoperative morbidity, correlating with lower postoperative stay in the elderly. Further prospective studies are needed to assess the outcome of MIS in elderly population.

Key words: minimal invasive surgery, open surgery, elderly care, colorectal carcinoma, laparoscopic approach, robotic approach, propensity score