

Minimally Invasive Colorectal Surgery - Present and Future Trends

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Abstract

In the last decades, surgical techniques have evolved, introducing better, more sophisticated devices, aimed at providing the least traumatizing surgical operations, with improved perioperative and longtime results. Based on the results of randomized control trials, current guidelines recommend laparoscopic approach for the treatment of colonic cancer where there is appropriate expertise. Compared with colonic resection, laparoscopic rectal resections are technically challenging procedures associated with a low adoption rate, high conversion rate, debatable functional and oncological results. These drawbacks created the need for a better tool. Robotic surgery emerged to overcome the limits of laparoscopy in terms of visibility and instrument maneuverability. Laparoscopic approach is best suited for colon and superior rectal cancers, while robotic approach is best indicated in medium and inferior rectal cancers (especially in men with a narrow pelvis and in patients with high BMI). In these cases the robotic approach greatly facilitates the minimally invasive approach and, most of the time, allows preservation of the pelvic autonomic nerves leading to a better quality of life. Due to increased costs and relative unavailability of this method, it is difficult to anticipate if the adoption rate of minimally invasive surgery in colorectal cancer will increase significantly.

Key words: robotic surgery, laparoscopic surgery, minimally invasive surgery, rectal cancer, colon cancer