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ROBOTIC RECTAL RESECTION: PRELIMINARY RUSSIAN EXPERIENCE

Atroshchenko Andrey Olegovich
Moscow Clinical Scientific and Practical Center, Russia

Introduction: Even though laparoscopic rectal resection is clearly feasible, with comparative oncological results when compared with open surgery, the laparoscopic approach remains technically challenging. Some of these challenges reflect the ergonomic limitations of the current instrumentation where there is a restricted tactile feedback. Moreover, the constraint of 2-dimensional visualization significantly reduces depth perception and hand-eye coordination. The introduction of the robot for proctectomy provides a 3-dimensional view and a fixed retraction by the assisting robotic arm with flexible instrumentation which with the Da Vinci® robotic system (intuitive surgical, Sunnyvale CA) enhances maneuverability. In rectal resection, the robot can partially overcome the negative impact of a narrow field of vision, most notably in a small pelvis, magnifying both the autonomic nerves and the correct plane of mesorectal fascial excision.

Purpose: To outline the first initial experience of the da Vinci robotic system as used in a Moscow tertiary colorectal referral center for an unselected range of benign and malignant rectal diseases.

Methods: Prospective non-randomized single-center study which analyzed results of 26 robotic rectal resections performed between January 2014 and December 2016.

Results: The initial group included 10 females and 16 males (mean age 61.6 years). Three patients were operated on for benign rectal villous adenomas. Two-thirds of patients had significant comorbidities with a median ASA score 4.5-5.5. Of the surgeries, there were 19 total mesorectal excisions (TME) with 6 patients undergoing a multivisceral resection. The mean operating time was 358 minutes with a mean blood loss of 203 mL. All mesorectal excision specimens were adjudged as sate grades specifically with a mean of 18.5 lymph nodes identified. Of these there were 10 patients (38.5%) with lymph node metastases. The mean pain score was 2.1/10 on the visual analogue scale and 1.5/10 on the Brief Pain Inventory (BPI). There were 3 patients with postoperative urinary difficulty. The median preoperative wexner continence score was 2.7 with a 10-day postoperative -3.1 and a six month postoperative -1.6. One patient underwent early repeat surgery for an adhesive small bowel obstruction. The median length of hospital stay was 11 days.

Conclusion: Our initial experience with a totally robotic rectal resection has shown it to be safe and feasible, particularly in patients where conventional laparoscopic rectal resection would be anticipated to be challenging.

dr.atroshchenko@gmail.com