ERAS protocol for minimizing the morbidity of robot-assisted radical cystectomy: A tertiary center experience

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Introduction & Objectives: Complications and post-surgical convalescence time following robot-assisted radical cystectomy (RARC) are still prevalent although there have been significant improvements in both surgical technique and perioperative care. The purpose of enhanced recovery after surgery (ERAS) protocols is to maintain preoperative organ function and reduce stress prior, during and post-surgery. ERAS protocols include, but are not limited to: preoperative counselling, optimization of nutrition, standardized analgesic and anesthetic regimens and early mobilization. In this study we present our initial experience with the use of ERAS protocols after RARC.

Materials & Methods: We retrospectively reviewed our prospectively maintained database of robot-assisted radical cystectomy. We extracted data of 55 patients who underwent RARC and urinary diversion (i.e., 27 patients: Bricker intervention [Brl], 28 patients Y neobladder [Ynb]) and ERAS protocol, from December 2016 to December 2020. Our protocol included: no oral preoperative bowel preparation, combined anesthesia (general+epidural without opioids), removal of nasogastric tube at the end of the surgery, oral clear fluids same day post-surgery, parenteral and enteral nutrition in post-operative Day (POD) 1, mobilization in POD2. The following data were collected and analyzed: intraoperative surgical variables, peristalsis recovery, first passage of flatus, hospital convalescence, oral intake, mobilization and complications (classified according to Clavien-Dindo classification). In this study stable health status was defined as follows: no drain, free mobilization, standard oral intake and regular bowel habit.

Results: The average age at surgery was 65.7 years, BMI was 26.4 kg/m2 and Age Adjusted Charlson Index was 5. Mean surgery time was 277 minutes, mean blood loss was 489.7 ml. Drain was removed after 3.8 days, time to flatus was 2.6 and to normal bowel function was 4.8 days. Time to reach a total oral nutrition and mobilization were recorded after 3.5 and 1.3 days respectively. The median hospitalization time was 9 days. One patient was unable to complete the ERAS program for recurrent emesis. We detected 7 complications with Clavien Grade >2. Between Bricker and Neobladder groups no significant differences were reported (p<0.05).

Conclusions: ERAS protocol applied to RARC allowed a more rapid bowel function recovery and a shorter time to obtain stable health status with no increase in complications. Because of the sample size limit, more data are needed to confirm our results.