



American Journal of Urology Research

Editorial

Enhanced Recovery after Surgery (ERAS) Protocols after Radical Cystectomy: Existing Barriers and Promising new Developments - @

Evie Mertens* and Homayoun Zargar

Royal Melbourne Hospital, Melbourne, VIC, Australia

***Address for Correspondence:** Evie Mertens, Royal Melbourne Hospital, Melbourne, VIC, Australia

Submitted: 04 December 2015; **Approved:** 28 December 2015; **Published:** 04 January 2016

Citation this article: Mertens E, Zargar H. Enhanced Recovery after Surgery (ERAS) Protocols after Radical Cystectomy: Existing Barriers and Promising new Developments. Am J Urol Res. 2016;1(1): 006-008.

Copyright: © 2016 Mertens E, et al. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

By utilizing evidence based practice enhanced recovery after surgery (ERAS) protocols implement several steps along the care pathway to help minimise the surgical stress response caused from surgical insult. Radical Cystectomy is associated with the highest morbidity of all urological procedures [1]; with extended length of hospital stay and high complication rates reported post operatively [1-2]. In 2013, following a literature review the ERAS society published guidelines detailing 22 ERAS items for patients undergoing radical cystectomy. When incorporating evidence from colorectal surgical patients, it was demonstrated that bowel preparation did not improve outcomes while early nasogastric tube removal reduced morbidity, bowel recovery time and hospital length of stay [3]. Throughout Europe there has been a wider uptake of ERAS protocols, and several studies have reported benefits of its implementation [4-6]. Despite this available evidence, utilization of ERAS within Australia for this patient cohort remains slow. As clinicians it is our duty to do all we can to minimize treatment related harm. If ERAS protocols have been shown to reduce harms without increasing complications, then it is logical for them to be utilised for more patients undergoing such a morbid procedure. Increased cost, lack of available resources and opposition to change are all potential barriers to its implementation.

Challenging the argument that ERAS increases the financial burden on hospitals, a recent publication evaluated the 30 day global cost burden of an ERAS protocol compared to those radical cystectomy patients receiving standard care, demonstrating a total cost saving of 4488 USD per procedure [7]. The average length of hospital stay at our center for such a patient cohort is 10 -14 days. Our first patient to receive the ERAS protocol care pathway was discharged home on day 4. At our workplace the bed fee for an advanced surgical procedure is 410 AUD per day, not counting expendables. At a bare minimum being discharged on day 4 rather than day 10 has saved approximately 2,460 AUD.

Despite an upward trend in adoption of ERAS protocols for patients undergoing radical cystectomy the utility of ERAS protocols in patients undergoing robotic cystectomy remains relatively underexplored. Saar et al reported successful implementation of “fast-track” regimen in their small cohort of patients undergoing robotic cystectomy and extracorporeal urinary diversion with the reduction in time to a regular diet, lower need for opioids use in patients on “fast-track” regimen [8]. Apart from it’s non-randomized nature and small sample size, use of extracorporeal urinary diversion potentially diluted some of the benefits of a minimally invasive approach. Retrospective data from large multi-institutional series suggest that intracorporeal urinary diversion reduce the gastrointestinal and overall 90-day complications compared to extracorporeal urinary diversion [9], suggesting that combining completely intracorporeal robotic minimally invasive radical cystectomy with ERAS might have an impact in reduction of complication rates and length of stay. In contrast a recent highly publicised randomized controlled study comparing open to robotic radical cystectomy did not show a reduction of complication rates in the robotic arm [10], however the diversions for both arms of the study were done extracorporeally and ERAS protocols were not strictly implemented in either arms of the trial likely undermining the benefits of minimally invasive approach. Decrease in blood loss, reduced the need for narcotics and minimal handling of bowels during the procedure are some of the potential benefits of robotic cystectomy that can further augment the benefits

of ERAS protocols. The extra cost associated with robotic approach could potentially be mitigated by reduction of complication rates, length of hospital stay and early return to normal activities offered by adoption of ERAS care protocols.

Opposition to change is another possible barrier to ERAS implementation. Early mobilisation, limited opiates and early return to diet are all ERAS measures that challenge traditional post-operative nursing care following major abdominal surgery. Nursing staff on the ward may be hesitant to recommence diet post operatively and assist the patient in mobilising so early on. This is where a dedicated ERAS nurse can be utilised to educate staff on evidence-based care to alleviate possible concerns regarding the change in care provision. Managing patient expectations, providing education and supporting the patient and their family are all important tasks of the ERAS nurse. Published data suggests that preoperative patient education and support can relieve anxiety, improve knowledge and satisfaction [11].

Because of it’s multidisciplinary nature, several different units within the hospital system and members of the health care team need to be supportive and available to provide the required care. In the author’s experience, lack of available staff resources is the major barrier in the implementation of ERAS. Surgeons, dieticians, nurses, physiotherapists/exercise physiologists and stomal therapists are all integral in assisting the patient to achieve the first step in the ERAS care pathway; pre-operative medical optimization. In order for ERAS to be successfully implemented, institutions need to provide the necessary funding, resources and education so clinicians can sustainably provide evidence based ERAS care principles. At first glance it seems intuitive that minimally invasive approach can be an additional building block to already established ERAS pathways, however future works should assess this hypothesis.

REFERENCES

1. Shabsigh A, Korets R, Vora KC, Brooks C M, Cronin AM, et al. (2008). Defining Early Morbidity of Radical Cystectomy for Patients with Bladder Cancer Using a Standardized Reporting Methodology. *European Urology*, 55, 164-176.
2. Froehner M, Brausi MA, Herr HW, Muto G, Studer UE. Complications following radical cystectomy for bladder cancer in the elderly. See comment in PubMed Commons below *Eur Urol*. 2009; 56: 443-454.
3. Cerantola Y, Valerio M, Hubner M, Iglesias K, Vaucher L, et al. (2013). Are Patients at Nutritional Risk More Prone to Complications After Major Urological Surgery? *The Journal of Urology*, 190, 2126-2132.
4. Katebian B, Bazargani S, Ahmadi H, Miranda G, Cai J, et al. (2015). 90-Day Complications in Patients Undergoing Radical Cystectomy on Enhanced Recovery Protocol, *the Journal of Urology*, 193; 45-47.
5. Smith J, Meng ZW, Lockyer R, Dudderidge T, McGrath J, Hayes M, Birch B. Evolution of the Southampton Enhanced Recovery Programme for radical cystectomy and the aggregation of marginal gains. See comment in PubMed Commons below *BJU Int*. 2014; 114: 375-383.
6. Koupparis A, Dunn J, & Rowe GE. (2009). Improvement of an enhanced recovery protocol for radical cystectomy. *British Journal of Medical & Surgical Urology*, 3, 237-240.
7. Nabhani J, Ahmadi H, Schuckman AK, Cai J, Miranda G, et al. (2015). Cost Analysis of the Enhanced Recovery After Surgery Protocol in Patients undergoing Radical Cystectomy for Bladder Cancer. *European Urology*, 43: 1-5.
8. Saar M, Ohlmann CH, Siemer S, et al. Fast-track rehabilitation after robot-assisted laparoscopic cystectomy accelerates postoperative recovery. *BJU international* 2013; 112: 99-106.

9. Ahmed K, Khan SA, Hayn MH, et al. Analysis of intracorporeal compared with extracorporeal urinary diversion after robot-assisted radical cystectomy: results from the International Robotic Cystectomy Consortium. *European urology* 2014; 65:340-7.
10. Bochner BH, Sjoberg DD, Laudone VP. Memorial Sloan Kettering Cancer Center Bladder Cancer Surgical Trials G. A randomized trial of robot-assisted laparoscopic radical cystectomy. *The New England journal of medicine* 2014; 371: 389-90.
11. Gregg JR, Cookson MS, Phillips S, Salem S, Chang SS, et al. (2011). Effect of Preoperative Nutritional Deficiency on Mortality after Radical Cystectomy for Bladder Cancer. *The Journal of Urology*, 185; 1: 90-96.