

Robotic radical cystectomy: changes in enhanced recovery protocols

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Radical cystectomy with urinary diversion is one of the most complex urologic procedures [1,2]. Despite improvements in surgical technique, anaesthesia and perioperative care, radical cystectomy is still associated with significant morbidity and prolonged in-patient stay after surgery [3,4]. Fast-track principles are standard procedure in radical cystectomy, to minimise complications. Robotic surgery has been performed in an effort to reduce surgical stress and decrease perioperative morbidity [5]. Despite the degree of dissection, it remains the gold standard for muscle invasive bladder cancer. The magnitude of the surgical insult is associated with the degree of stress response, particularly in ageing patients with multiple comorbidities [2]. However, there has been a growing trend towards Enhanced Recovery Protocols (ERP).

Enhanced recovery protocols are multimodal perioperative care pathways designed to achieve early recovery after surgical procedures by maintaining preoperative organ function and reducing the stress response following surgery [6]. The key elements of ERP include preoperative counselling, optimization of nutrition, standardized analgesic and anaesthetic regimens and early mobilization [6]. These also have the advantage of not compromising patient outcomes [7]. However, guidelines for perioperative care after open radical cystectomy for bladder cancer were recently published, but these recommendations may differ when considering a robotic approach [5]. Some protocols, have gone as far as incorporating re-operative education, expectation setting, prehabilitation, nutrition evaluation, carbohydrate loading, venous thrombosis prophylaxis, normothermia maintenance, local anaesthesia, no nasogastric tubes or bowel prep, early feeding, and opioid avoidance [7,8]. Part of this involves enhanced mobilization [9]. No single intervention significantly reduces morbidity, but the combination of many interventions at all levels of the pathway is likely to accelerate the patient journey from diagnosis to return to normal function [2]. As a result, both readmission and complications rate are reduced.

The enhanced recovery patients have shorter time to GI function and recover more quickly than patients not put through enhanced recovery [3]. This protocol clearly improves clinical outcomes in terms of faster return of bowel function and reduction of readmission within 30 days [3]. These also clearly allow limitation of complications and length of stay [4]. A shorter time to stable health status with no increase of complications [6].

In contrast, in some cases, enhanced recovery may also have its' readmission rates- incidence of readmission after radical cystectomy still remains relevant, affecting more than 25% of patients, mostly

affected by urinary tract infections [10]. Multi-institutional studies would be helpful to externally validate these.

In conclusion, ERP is a safe approach promoting standardization of post-operative care and resulting in decreased length of stay and decreased variability [11]. Incorporating minimal access surgery within an established and continuously evolving care pathway is central to continuously improving care [12]. Early nasogastric tube removal reduced morbidity, bowel recovery time and length of hospital stay [13]. Doppler-guided fluid administration allowed for reduced morbidity [13]. A quicker bowel recovery was observed with a multimodal prevention of ileus, including gum chewing and minimally invasive surgery [13].

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