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European Association of Urology

Brief Correspondence

One-day Prehabilitation Program Before Robotic Radical Prostatectomy in Daily Practice: Routine Feasibility and Benefits for Patients and Hospitals

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Optimization of perioperative care pathways plays a pivotal role in major oncologic surgery. It has been demonstrated that enhanced recovery after surgery (ERAS) regimens and prehabilitation programs improve perioperative outcomes in oncology surgery [1,2]. Numerous benefits of these programs in terms of postoperative wellbeing have been described among a variety of cancer surgery populations. However, the literature is scarce in the setting of localized prostate cancer treatment. The development and widespread use of minimally invasive and robotic surgery have led to improved acceptance of radical prostatectomy (RP) on the basis of oncologic and functional outcomes. Nevertheless, satisfaction after RP should be determined in terms of not only disease-free survival and objective measures such as continence and sexual function, but also personal perception and health-related quality of life [3]. A comprehensive assessment of physical and psychosocial wellbeing should be included. Prehabilitation is an emerging field of research that can help in improving patients' physiological and psychological perception of this ablative surgery [4,5]. For the majority of patients, interventions dedicated to minimizing RP side effects are restricted to the postoperative period and focused on continence and potency issues. However, patients are more likely to capitalize on advice and physical condition improvements during the preoperative period. There is no doubt that preoperative patient education has to play a major role in easing recovery after surgery. Patient counseling is correlated with less regret regarding treatment choice [6]. Available data also suggest that psychological prehabilitation may have a role for cancer patients undergoing surgery [7]. Moreover, in the context of continuous increases in

health care costs and economic pressure from private insurance companies and public health care systems to shorten hospital stays, the development of prehabilitation programs may also lead to wider acceptance of same-day surgery [8].

Engaging patients in a prehabilitation program before stressful cancer surgery is challenging. Some studies have shown that patients can consider a prehabilitation program as not useful, lonely, stressful, or frustrating, particularly when no consistent approach in identifying and preparing patients was identified [9]. In spite of these limitations, studies have noted promising wellbeing benefits and less anxiety and decreased body fat percentage among RP patients undergoing prehabilitation [10]. One of the key elements to success is a multidisciplinary approach: the support team should include surgeons, nurses, anesthetists, physiotherapists, dieticians, psychologists, and cancer nurse specialists. Clinical care nurse specialists play a key role by providing technical skills and self-management support to optimize patient preparation and compliance with postoperative care and early discharge. The variety of information sources appeared important for meeting patient needs. The difficulty in organizing all these interventions in a short preoperative time frame can be a limitation for widespread use. This is why we chose to merge include all caregivers and mandatory preoperative visits (anesthetists) within a single 1-d session.

Here, we report our experience of the routine implementation of a 1-d prehabilitation program before robotic RP in the era of ERAS. Since 2018, we have offered a 1-d structured prehabilitation program to all RP patients before surgery [8]. The schedule for the program is shown in

DOI of original article: <http://dx.doi.org/10.1016/j.euros.2020.08.002>.

<http://dx.doi.org/10.1016/j.euros.2020.06.009>

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Table 1 – The 1-d structured program for prehabilitation

Prehabilitation workshop/visit (from 10 am to 5 pm)	Specialist	Audience
Welcome and preoperative questionnaires	Urology nurse	Group
Blood tests and radiography if needed	Laboratory, radiology	Individual
Perioperative care workshop	Urology nurse	Individual
Physical activity and continence workshop	Physiotherapist	Group
Pain management workshop	Anesthetic nurse	Group
Cancer management and follow-up workshop	Oncology nurse specialist	Individual
Anesthesia visit	Anesthesiologist	Individual
Cardiology visit if needed	Cardiologist	Individual
Pneumology visit if needed	Pneumologist	Individual
Oncopsychology	Psychologist	Individual
Balanced and perioperative diet	Dietician	Group
Compression stockings and bladder catheter workshop	Urology nurse	Group
Urology visit and conclusion	Urologist	Individual

Table 2 – Comparison of outcomes between the initial cohort in the first 6 mo and subsequent cases

	First 6-mo period (n = 68)	Subsequent cases (n = 126)	p value
Mean age (yr)	67.0	66.4	0.447
Mean body mass index (kg/m ²)	26.8	26.2	0.261
ASA score (n)			0.743
1	2	3	
2	32	61	
3	0	1	
Mean operative time (min)	168	152	<0.001
Mean blood loss (ml)	351	285	0.097
Mean hospital stay (d)	2.1	1.2	<0.001
Prolonged stay > 2 d, n (%)	5 (7.4)	6 (4.8)	0.457
Same-day discharge, n (%)	2 (2.9)	25 (19.8)	0.001

ASA = American Society of Anesthesiologists.

Table 1. A urology nurse plays a pivotal role in the delivery of this prehabilitation care. A mean of four patients are welcomed for each session, scheduled 2–3 wk before surgery. Face-to-face workshops (pain management, bladder catheter, compression stockings, postoperative care) and group-based seminars are led by specialized nurses. During these workshops, patients have access to educational material and interactive discussions aimed at sharing questions, doubts, and experiences. The dietician intervention includes a complete nutritional assessment with general nutritional advice. For underweight patients, oral nutrition support with supplements is provided the week before surgery. Dietetic counseling on weight loss is given to overweight patients. The physiotherapist intervention includes two different types of home exercises. Advice on a home-based, moderate-intensity exercise regimen before surgery is given. Patients are asked to perform presurgical pelvic floor exercises two or three times a day to improve postoperative continence recovery. Advice on walking programs, aerobic training, and cardiorespiratory fitness is also given to improve preoperative patient condition. A 2-yr audit of this 1-d program is planned in 2020 to provide new practical ideas and to assess the timing of the session, the educational content, and strategies to boost engagement.

This multimodal 1-d prehabilitation intervention was perceived as highly helpful by the vast majority of patients, with demonstrated acceptability of >90%. All participants acknowledged positive interactions between RP patients and health professionals. Patients perceived as beneficial the quality of the information provided via open forum questions answered by multidisciplinary health care professionals during group-based workshops, as this approach promoted interactive discussions. As shown in **Table 2**, since the 1-d program was initiated we have observed significant improvements in terms of reductions in length of stay, blood loss, and operative time, and an increase in the proportion of same-day surgery (up to 20% of the overall center RP cohort) without increasing the postdischarge readmission rate. In spite of the costs for the 1-d program (approx. €250 per patient), overall 30-d costs were reduced by 11.6% compared with the standard approach without prehabilitation. This improvement was mainly achieved via a reduction in hospital stay without increasing the readmission rate. Expectations for the near future include benefits in terms of return to work, return to active life, and overall wellbeing, and will be the subject of future trials based on patient-reported outcomes and health-related quality of life assessed using validated questionnaires. Even if all surgeons were beyond their learning curve at the beginning of the study, the improvements in operative time

and blood loss observed might also be explained by better performance by all the surgeons involved over time. A multicenter, patient-centered, randomized controlled trial is needed to confirm a causal relationship between the prehabilitation program and long-term physical and psychological outcomes and its cost-effectiveness.

Author contributions: Guillaume Ploussard had full access to all the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

Study concept and design: Ploussard, Loison, Almeras, Gautier, Cazali, Tollon, Beauval, Salin.

Acquisition of data: Ploussard, Salin.

Analysis and interpretation of data: Ploussard, Cazali.

Drafting of the manuscript: Ploussard.

Critical revision of the manuscript for important intellectual content: Loison, Almeras, Gautier, Tollon, Beauval, Salin.

Statistical analysis: None.

Obtaining funding: None.

Administrative, technical, or material support: None.

Supervision: Almeras, Beauval, Gautier, Loison, Salin, Tollon.

Other: None.

Financial disclosures: Guillaume Ploussard certifies that all conflicts of interest, including specific financial interests and relationships and affiliations relevant to the subject matter or materials discussed in the manuscript (eg, employment/affiliation, grants or funding, consultancies, honoraria, stock ownership or options, expert testimony, royalties, or patents filed, received, or pending), are the following: None.

Funding/Support and role of the sponsor: None.

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June 28, 2020