



Platinum Priority – Editorial

Referring to the article published on pp. 869–885 of this issue

Quality of Life Outcomes Following Treatment for Localized Prostate Cancer: What's New and What's Not

David F. Penson^{a,b,*}

^a Department of Urologic Surgery, Vanderbilt University, Nashville, TN, USA; ^b VA Tennessee Valley Geriatric Research, Education, and Clinical Center, Nashville, TN, USA

In this issue of *European Urology*, Lardas and colleagues [1] present results of a systematic review of the literature on quality of life (QOL) outcomes following treatment for localized prostate cancer. The findings should surprise no one. Surgery is associated with greater sexual and urinary dysfunction when compared to active surveillance (AS) or external-beam radiotherapy (EBRT). Conversely, EBRT is associated with greater bowel dysfunction when compared to surgery or AS. Finally, and perhaps most importantly, AS had the least negative impact on QOL outcomes of all the therapeutic options. Importantly, while there were subtle minor differences between studies included in the review that were probably related to sample size and/or study design issues, the general findings were relatively consistent across all 18 studies included in the analysis. Simply put, surgery and radiation each negatively affect QOL, albeit differently, and patients who can be safely managed with AS should be strongly encouraged to choose this therapeutic strategy. While these key messages are not surprising and are generally well known, the review also raises several other new points that should be considered.

First, despite numerous purported technical advances in surgical and radiation techniques over the past 25 yr, the findings of the various studies remain remarkably consistent over time. For example, QOL findings following surgery noted in the PCOS study [2], which accrued patients in 1994–1995, are strikingly similar to those from the CEASAR study [3], which has a very similar study design but enrolled patients during 2011–2012. These studies, and others [1], demonstrate that overall estimates of post-surgical erectile dysfunction and urinary incontinence have remained

basically unchanged despite a better understanding of surgical anatomy and technique and the introduction and rapid updating of robotic technology. Unfortunately, it is difficult to draw definitive conclusions from the systematic review regarding temporal improvements in EBRT because of the authors' decision to categorize isolated EBRT, brachytherapy with EBRT boost, and EBRT in combination with androgen deprivation into a single heterogeneous "EBRT" group. Acknowledging this, the study notes that modern "EBRT" appears to be associated with less bowel dysfunction, probably because of advances in radiation techniques. This improvement in bowel dysfunction, however, is incremental at best and does not really represent a major therapeutic breakthrough. To this end, we must accept that we have probably reached the limit of our ability to improve outcomes via technical changes in surgical or radiation methods. Short of a paradigm-changing new approach to treatment, the results presented here are probably the best we can expect.

The systematic review raises a second relatively new and important point. The QOL outcomes noted in the 18 studies included tend to be considerably worse than those noted in prior reports from single-center, high-volume academic medical centers. Many of the studies in the current report are multicenter in design or are population-based, making them more representative of the general population. For example, for patients undergoing surgery in the ProtecT trial the impotence rate (defined as erections insufficient for intercourse) was 81% at 2 yr following randomization [4]. Contrast this to the single-center study by Rodriguez and colleagues [5] with a potency rate of 89% (based on

DOI of original article: <http://dx.doi.org/10.1016/j.eururo.2017.06.035>.

* Department of Urologic Surgery, Vanderbilt University Medical Center, A-1302 Medical Center North, Nashville, TN 37232-2765, USA.

Tel. +1 615 3430234.

E-mail address: david.penson@vanderbilt.edu.

<http://dx.doi.org/10.1016/j.eururo.2017.07.010>

0302-2838/© 2017 European Association of Urology. Published by Elsevier B.V. All rights reserved.



positive responses to two items from the EPIC instrument). How do we explain these two almost diametrically opposed findings? Superior outcomes at high-volume centers may be due to: (1) a better surgical technique; (2) better selection of patients; (3) differences in study methodology; or (4) a combination of these factors. Regardless of the cause of the differences, it is clear that the average urologist who does not collect his or her own outcomes data must counsel patients with data from studies like the systematic review by Lardas and colleagues [1] as opposed to those from the high-volume, single-center series. The findings presented in the systematic review represent the “average” outcomes delivered by the “average” urologist or radiation oncologist, and therefore must be shared with the “average” patient. Given that studies in the Lardas et al report [1] imply that most urologists cannot achieve the outcomes reported in the high-volume, single-center series, it would be wrong to quote the superior outcomes seen in these single-center reports to patients (unless, of course, you happen to be a surgeon at one of the high-volume centers that published its outcomes).

Building on the last point, this systematic review underscores the need to use these data for developing new and standardized ways to help patients make truly informed decisions around treatment for localized prostate cancer. When one considers the heterogeneity of the literature on QOL outcomes following treatment for localized prostate cancer, it becomes abundantly clear how difficult it is to discuss the risks and benefits of each treatment in the relatively short time afforded during a regular office visit. We must identify novel ways to

disseminate the information presented in this study in a way that patients can understand and use. Rather than try to push the envelope with minor technical changes in surgery or radiation that are likely, at best, to result in only small improvements in QOL outcomes, it is time we devoted our efforts to identifying better ways to help patients understand what will really happen to them after treatment so that they can make the most informed decision possible.

Conflicts of interest: The author has nothing to disclose.

References

- [1] Lardas M, Liew M, van den Bergh RC, et al. Quality of life outcomes after primary treatment for clinically localised prostate cancer: a systematic review. *Eur Urol* 2017;72:869–85. <http://dx.doi.org/10.1016/j.eururo.2017.06.035>.
- [2] Resnick MJ, Koyama T, Fan K-H, et al. Long-term functional outcomes after treatment for localized prostate cancer. *N Engl J Med* 2013;368:436–45. <http://dx.doi.org/10.1056/NEJMoa1209978>.
- [3] Barocas DA, Alvarez J, Resnick MJ, et al. Association between radiation therapy, surgery, or observation for localized prostate cancer and patient-reported outcomes after 3 years. *JAMA* 2017;317:1126–40. <http://dx.doi.org/10.1001/jama.2017.1704>.
- [4] Donovan JL, Hamdy FC, Lane JA, et al. Patient-reported outcomes after monitoring, surgery, or radiotherapy for prostate cancer. *N Engl J Med* 2016;375:1425–37. <http://dx.doi.org/10.1056/NEJMoa1606221>.
- [5] Rodriguez E, Finley DS, Skarecky D, Ahlering TE. Single institution 2-year patient reported validated sexual function outcomes after nerve sparing robot assisted radical prostatectomy. *J Urol* 2009;181:259–63. <http://dx.doi.org/10.1016/j.juro.2008.09.015>.