EDITORIAL

Confirming the volume-outcome relationship in bladder cancer: Now what?

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Cite as: *Can Urol Assoc J* 2013;7(11-12):419.
http://dx.doi.org/10.5489/cuaj.1768
Published online December 5, 2013.

The optimal management of muscle invasive urothelial cancer (MIUC) is elusive, with cystectomy and perioperative chemotherapy functioning as our nearest approximation to a treatment standard. Although its efficacy on local control and cancer-specific survival is well-established, cystectomy represents moderately high-risk surgery potentially leading patients and providers to consider alternative treatments to avoid postoperative morbidity and mortality. Furthermore, the uptake of perioperative chemotherapy has been arguably poor in routine clinical practice in North America. There is limited high quality clinical trials cementing the role of adjuvant chemotherapy; despite higher level evidence, neo-adjuvant chemotherapy is not widely used given the inherent challenges of translating the benefits demonstrated in trials to routine practice. These uncertainties regarding the optimal management of muscle-invasive bladder cancer has led to variability in the delivery of care in the general population,[1,2] resulting in marked variances in outcomes compared to those in centres of excellence.

Along with a desperate need to develop better diagnostic and treatment strategies, the optimization of care delivery for existing therapies in routine clinical practice is required to maximize outcomes in bladder cancer: "achieving the achievable." In our minds the lowest hanging fruit to narrow this efficacy-effectiveness gap in Canada would be to address the centralization of surgical care for MIUC. In this issue of the *CUAJ*, Kulkarni and colleagues re-affirm the impact of provider volume in early operative mortality in Ontario[3] and, perhaps more dramatically, the same group has recently published their results demonstrating the significant effect of both surgeon and hospital volume on long-term survival after cystectomy.[4] These reports bring home the already burgeoning evidence in the surgical oncology literature highlighting the volume-outcome relationship in numerous cancer sites.

But what have we done with this data? Some authors have lamented the limitations of this evidence base for several methodological flaws: too restricted patient populations, no prospective control for case selection, inability to adjust for the relative effects of both surgeon and hospital volume, and no investigation of process-of-care factors underpinning the volume-outcome relationship. In other words, can we identify and imitate the processes of high volume providers to improve outcomes for lower volume providers? At Queen's University, similar findings as those of Kulkarni and colleagues have been presented, demonstrating a significant effect of provider volume on late outcomes and the inability to sufficiently identify the process-of-care variables that can explain this volume effect on long-term survival.[2] These overwhelming signals seem impossible to ignore.

The consistent benefit of higher provider volume in observational studies, as well as the apparent inability to identify mitigating factors to facilitate audit/feedback and improve quality of care for lower volume providers, underscore the rationale for concentrating surgical services in MIUC. This issue of rationalizing services is fraught with inevitable conflicts, including those of patient preference, health economics and social welfare; however, much has already been learned from the centralization experiences in the United Kingdom for upper gastrointestinal surgery. It seems that it is about time for the oncology community managing those with MUIC in Canada, working with our regional/provincial healthcare partners and advocacy associations, to stand up and grab that fruit.

References

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