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EDITORIAL COMMENT



The authors report on a retrospective cohort study of 5386 patients diagnosed with nonmuscle-invasive bladder cancer (NMIBC) at Kaiser Permanente Southern California between 2001 and 2015. They find that 41% of patients received any intravesical therapy. Use of postoperative intravesical chemotherapy was rarer (given to 17%), but increased over time. There was substantial variation in use of intravesical therapy across urologists. The variation was greatest for use of postoperative intravesical chemotherapy, with 45% of the observed variation explained by the treating urologist.

The findings are important because the use of intravesical chemotherapy is a crucial component of guideline concordant NMIBC care.¹ An immediate postoperative dose of intravesical chemotherapy decreases 5-year recurrence rates by 14% from 59% to 45%.² Thus, administration of postoperative intravesical chemotherapy has been suggested as a quality measure.³

However, it is hard to know what the “right rate” of intravesical chemotherapy use should be. Clearly, there are contraindications present in some patients that justify non-use. To that end, the authors performed a random chart review among patients who did not receive intravesical therapy and found that in 20% a reresection was performed, providing a good rationale for not giving postoperative chemotherapy. Only 2% of patients declined intravesical therapy. However, in about two thirds of patients, reasons for nonadministration of intravesical therapy were less clear, including plan for surveillance only in 29% and no documented reason in 38%.

While it is somewhat encouraging that use of intravesical therapy increased over the study period, simply relying on natural time trends to improve care is not enough. There clearly is a need to implement more guideline concordant use of postoperative intravesical therapy, illustrated by the fact that some urologists used this therapy almost all of the time while others never used it. First, we will need to gain a thorough understanding of the barriers to guideline concordant NMIBC care, which are likely at the provider—(eg, lack of knowledge, worry about side-

effects, and habit) and the hospital-level (eg, ease of writing the chemotherapy order, availability of trained nurses to administer drug in the recovery room). To that end, mixed-methods studies guided by implementation science frameworks provide a rigorous way to assess existing challenges to guideline concordant care.⁴ Once known, these challenges can be addressed by systematically developing implementation strategies to improve care.⁵

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AUTHOR REPLY



We agree that the wide variability in postoperative chemotherapy use observed in our study underscores the need to increase guideline-consistent care for nonmuscle invasive bladder cancer. The physician factors we examined – including physician age, years employed at our institution, specialty training in oncology, and experience treating bladder cancer – did not explain the treatment variability. As Dr. Schroeck noted, other physician factors, such as the level of concern about side effects or awareness of and agreement with guidelines, may be important contributors to treatment variability.

We also agree that implementation science and mixed methods research may help identify ways to increase use of postoperative intravesical chemotherapy. However, studies of postoperative intravesical chemotherapy may need to go beyond the barriers typically focused on by implementation science studies, such as lack of guidelines or knowledge. This is because there is an unusually complicated set of inter-related factors that will need to be studied and addressed.

For example, it is possible that physicians may plan to use postoperative chemotherapy but then decide against it at the time of surgery for a variety of reasons (eg, tumor resection site was too extensive or too deep, in the physician's judgment, to use intravesical chemotherapy). Additionally, research on this topic may require more complex data collection because factors such as depth of tumor resection are difficult to capture and study; even identifying whether the physician thought the tumor resection was too deep to use postoperative chemotherapy may be challenging to capture. Similarly, for BCG immunotherapy, there have been medication shortages that may complicate or discourage treatment. Transdisciplinary research that focuses on these more subtle and complicated barriers to the use of postoperative intravesical chemotherapy (and BCG immunotherapy) could help advance research and clinical practice for bladder cancer, as well as make valuable contributions to implementation science.

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