The use of perioperative chemotherapy for patients undergoing radical cystectomy for invasive bladder cancer has been increasingly employed over the last several decades in an effort to improve survival. While neoadjuvant platinum based chemotherapy has level 1 evidence showing a survival benefit from randomized controlled trials and a meta-analysis, the existing evidence supporting the use of platinum-based chemotherapy in the adjuvant setting remains poorly defined and controversial (1,2). Attempts to answer the question regarding the benefit of adjuvant chemotherapy in patients with locally advanced disease after radical cystectomy (pT3/pT4 +/− node positive disease) through clinical trials have been fraught with poor accrual. Consequently, the existing evidence for adjuvant therapy relies on the data from various meta-analyses that demonstrates benefit for adjuvant chemotherapy (3-6).

Using the National Cancer Database (NCDB), the authors present a contemporary analysis of the comparative effectiveness of adjuvant chemotherapy vs. observation in 5,600 patients with locally advanced disease after radical cystectomy (pT3/pT4 +/− node positive disease) (7). Overall, 23% of patients received adjuvant chemotherapy; patients who were younger, had fewer comorbid conditions, and had node positive disease were more likely to be treated with adjuvant chemotherapy. Using various propensity scoring analysis to account for patient demographic and pathologic factors, the authors demonstrated a survival benefit at 5 years of 37% vs. 29% in the adjuvant chemotherapy group vs. observation. Similar to other administrative dataset studies, several important variables such as performance status are not captured by the database. Using a novel statistical technique, the authors account for a range of varying performance status with HR of 1.3 to 2.0 and determined that a survival benefit would still be demonstrated for adjuvant chemotherapy.

This study provides a snapshot on the current patterns adjuvant chemotherapy administration across the United States using a database that captures 70% of all cancer cases in the United States. As is the case with other retrospective cohort studies, there is inherent selection bias in the form of confounding by indication to treat in the patients who were ultimately treated with adjuvant therapy. Other data such as type and duration of chemotherapy used and information on recurrence of cancer are not captured by the NCDB and therefore is minor limitation of the study. The study is by no means a substitute for a well-designed randomized controlled trial; however, it does employ several statistical techniques (i.e., propensity matching) to account for missing data, and imbalances amongst treatment groups.

The decision to give adjuvant chemotherapy in patient’s patients with locally advanced or node positive disease can be difficult due to the lack of high quality evidence supporting adjuvant therapy and lack of patient accrual in previously opened trials. Currently the treatment paradigm for patients with locally advanced or node positive disease involves a discussion between the surgeon, medical oncologist, and the patient on whether to pursue adjuvant therapy that includes chemotherapy and soon immunotherapy. Certainly, data from the current study provide further support for adjuvant chemotherapy.

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Footnote

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References


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