UROLOGICAL ONCOLOGY

Orthotopic urinary diversion after cystectomy for bladder cancer: implications for cancer control and patterns of disease recurrence

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Purpose: The impact of orthotopic urinary diversion on the quality of cystectomy and ensuing cancer control has not been adequately studied. We analyzed our experience with this clinical problem.

Materials and Methods: The records of 214 patients who underwent cystectomy and orthotopic diversion for bladder cancer were retrospectively evaluated and compared with those of 269 treated with an ileal conduit. Analyzed end points included overall and cancer specific survival. We specifically assessed the patterns of relapse and their association with pathological findings at cystectomy in the neobladder group.

Results: No cancer specific survival difference was identified in the neobladder and ileal conduit cohorts when adjusting for pathological stage. Patterns of relapse in 62 of the 214 patients with a neobladder (29%) included local recurrence in 23 (11%), distant recurrence in 19 (9%), and combined local and distant recurrence in 18 (8%). Urethral recurrence was rare (2%). Of 10 patients (4.6%) diagnosed with upper tract recurrence 6 and 4 initially had relapse in the ureteroenteric anastomosis and renal pelvis, respectively. Five of the 6 patients with anastomotic relapse had evidence of disease in the intramural or juxtavesical ureter that was removed en bloc with the cystectomy specimen. Only 1 patient required neobladder takedown after such anastomotic recurrence.

Conclusions: These results indicate that neobladders do not compromise the quality of preceding cystectomy or interfere with management in the presence of local or distant disease relapse. Our data suggest that involvement of the intramural or juxtavesical ureteral segment at cystectomy irrespective of surgical margin

status may identify patients at higher risk for anastomotic recurrence, which is associated with an ominous prognosis.

Editorial Comment

The authors compare the clinical causes of patients with bladder cancer after cystectomy and orthotopic neobladder vs. ileal conduit. However, this comparison is not really fair as the majority of patients with ileal conduit underwent cystectomy after systemic (neoadjuvant) chemotherapy.

Rather than finding really new data from this comparison, the paper is important as it reflects the treatment standards of a very large and well-known referral center. Obviously, all patients in whom primary cystectomy is indicated will undergo a neobladder urinary diversion. If neoadjuvant chemotherapy is indicated, these patients usually receive an ileal conduit. From my point of view, this reflects a thorough and rational approach, which will suit the majority of patients very well.

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An interval longer than 12 weeks between the diagnosis of muscle invasion and cystectomy is associated with worse outcome in bladder carcinoma

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Purpose: The standard of care for muscle invasive transitional cell carcinoma of the bladder is radical cystectomy. Definitive therapy may often be delayed for various reasons. We assessed whether pathological stage and survival correlated with the length of time between diagnosis of muscle invasion and cystectomy.

Materials and Methods: The records of 290 consecutive patients who underwent radical cystectomy between February 1987 and July 2000 were reviewed. Of 265 (91.4%) cystectomies performed for transitional cell carcinoma data were available for 247 (85.2%) and 189 (65.2%) patients were identified who underwent surgery for muscle invasive disease (T2 or greater). The interval between diagnosis of muscle invasion and cystectomy was calculated for each patient. Patients were divided into groups based on time to surgery as group 1 - less than 4 weeks, 2 - 4 to 6 weeks, 3 - 7 to 9 weeks, 4 - 10 to 12 weeks, 5 - 13 to 16 weeks, and 6 - greater than 16 weeks. Exploratory univariate and multivariate analyses were performed to test the association of time lag with clinical features and postoperative survival.

Results: Mean patient age was 66 years (range 37 to 84) and overall 3-year Kaplan-Meier estimated survival was 59.1% +/- 4% (median follow-up 36 months). For all patients mean interval from diagnosis to cystectomy was 7.9 weeks (range 1 to 40). Extravesical disease (P3a or greater) or positive nodes were identified in 84% (16 of 19) of patients when the delay was longer than 12 weeks, compared with 48.2% (82 of 170) in those with a time lag of 12 weeks or less ($p < 0.01$). Similarly 3-year estimated survival was lower (34.9% +/- 13.5%) for patients with a surgery delay longer than 12 weeks compared to those with a shorter interval 62.1% +/- 4.5% (hazards ratio 2.51, 95% CI 1.30-4.83, $p = 0.006$). When adjusted for nodal status, and clinical and pathological stages the interval was still statistically significant (adjusted hazards ratio 1.93, 95% CI 0.99-3.76, $p = 0.05$).

Conclusions: In patients, undergoing radical cystectomy a delay in surgery of greater than 12 weeks was associated with advanced pathological stage and decreased survival. Although this relationship persisted after adjusting for nodal status, and clinical and pathological stages, the presence of lymph node metastasis remained the strongest predictor of patient outcome.

Editorial Comment

The authors analyze their cystectomy cases in terms of the interval between diagnosis of muscle invasion for bladder cancer and cystectomy. A total of 189 patients were identified to fulfilled the criterion. The mean interval from diagnosis to cystectomy was 7.9 weeks. The overall 3-years estimated survival was 59.1%. However, extravesical disease was identified in 84% when the delay was longer than 12 weeks, in contrast to 48,2% in those with a time lag of 12 weeks or less ($p < 0,01$). Consequently, Kaplan-Meier survival curves show clearly distinct differences between these 2 groups, reflecting the biology of extravesical disease.

This data supports the notion that too long a delay between diagnosis and therapy of invasive bladder cancer will result in impaired outcome for the patient. However, the 12 weeks limit is artificial, and does not reflect clinical reality. It remains to state that patients should be advocated not to wait too long to seek definitive curative treatment.

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