

Is Second Transurethral Resection Necessary for All Patients with T1 High-Grade Urothelial Carcinoma?

Introduction and Objective: Our aim was to determine clinicopathological factors which can predict the existence of residual tumor on the second TUR specimens for T1 high-grade bladder urothelial carcinoma.

Materials and Methods: Between January 2006 and April 2010, a total of 50 patients were diagnosed with T1 high-grade bladder urothelial carcinoma after the first TUR. We performed second TUR for these patients who had the first TUR at our institute (n=46) or outside (4) after obtaining the patient's consent. Clinicopathological data including age and sex were prospectively collected. Voided urine cytology was taken in all patients between the first and the second TUR, at least 1 week after the first TUR.

Results: A total of 20 (40%) patients had residual tumor on the second TUR. The second TUR stage was: T0 30 (60%); Ta/is 7 (14%); T1 9 (18%); and T2 4 (8%), respectively. In univariate analysis, positive urine cytology before the first TUR (48% vs. 0% in negative), positive urine cytology between the first and second TUR (76% vs. 21% in negative), and multiple T1 chips on the first TUR specimens (58% vs. 6% in one T1 chip) were associated with residual tumor on the second TUR ($p<0.05$ for each). In multivariate analysis, the number of T1 chips on the first TUR (multiple chips vs. one chip; hazard ratio 15.8; $p=0.016$) and urine cytology between the first and the second TUR (positive vs. negative; hazard ratio 9.0; $p=0.006$) were the significant predictors for residual tumor on the second TUR. Of 15 patients with multiple T1 chips and positive urine cytology between the first and the second TUR, 13 (87%) had residual tumor on the second TUR, compared to 0% (0/15) in those with one T1 chip and negative urine cytology between the first and the second TUR.

Conclusions: Second TUR may not be necessary for all patients with T1 high-grade bladder urothelial carcinoma. The number of T1 chips on the first TUR and urine cytology between the first and the second TUR are useful factors for predicting second TUR stage.