Bladder Cancer: Non-invasive III

Podium 48

Sunday, May 14, 2017 3:30 PM-5:30 PM

PD48-01

IS RESTAGING TRANSURETHRAL RESECTION (TUR) NECESSARY IN PATIENTS WITH NON-MUSCLE INVASIVE BLADDER CANCER (NMIBC) AND FOCAL LAMINA PROPRIA INVASION?

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INTRODUCTION AND OBJECTIVES: Repeat TUR is both diagnostic and therapeutic in patients with T1 NMIBC. The depth of lamina propria invasion was shown to have the largest impact on T1 tumors prognosis. We intended to evaluate the influence of lamina propria invasion type at initial TUR on the re-staging pathology.

METHODS: We reviewed from our prospectively maintained database all patients with a high-grade pT1 disease who underwent a re-staging TUR within 6 weeks at our center from January 2015 to May 2016. All pathology specimens were reviewed by a dedicated uro-pathologist. The characteristics of the lamina propria invasion were assessed according to the pathological report to identify focal invasion. The pathology of the second TUR was analyzed regarding the characteristics of the initial resection.

RESULTS: We included 198 patients, with a median age of 70 years (interquartile range: 63-79). Muscle was present in the initial TUR specimen in 107 patients (54%). Pathology restaging was pT0 in 73 patients (37%), pTis in 44 (22%), pTa in 27 (14%), pT1 in 50 (25%) and pT2 in 4 (2%). Eighty-seven patients (44%) had tumors with minimal lamina propria invasion at initial TUR (53 specimens (27%) with focal invasion, 15 (7.6%) with superficial invasion and 19 (10%) with multifocal superficial invasion). Focal invasion was defined as few malignant cells in the lamina propria, superficial invasion as T1a and multifocal superficial invasion as multiple areas of T1a. Of the patients with minimal lamina propria invasion, residual disease was found in 20 patients (23%). However, none of those patients had T2 disease (Table 1).

CONCLUSIONS: A significant number of patients with T1 tumors have residual disease at restaging TUR. This is not any different among patients with minimal lamina propria invasion. All patients with T1 tumors should undergo restaging TUR irrespective of the depth of penetration into the lamina propria.

Table 1: Re-TUR pathology staging by invasion type at initial TUR

TUR 2 Pathology	Non minimal invasion N=111 (56%)	Focal Invasion N=53 (27%)	Superficial Invasion N=15 (7.6%)	Multifocal Superficial Invasion N=19 (10%)
pT0	40 (36%)	21 (40%)	6 (40%)	6 (31.6%)
pTis	22 (19.8%)	15 (28%)	4 (26.7%)	3 (15.8%)
pTa	15 (13.6%)	4 (7.5%)	1 (6.6%)	7 (36.8%)
pT1	30 (27%)	13 (24.5%)	4 (26.7%)	3 (15.8%)
pT2	4 (3.6%)	0 (0%)	0 (0%)	0 (0%)

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PD48-02

THE EFFECT OF IMMEDIATE SECOND RESECTION OF TUMOR BED AFTER COMPLETE TRANSURETHRAL RESECTION OF BLADDER TUMOR : A COMPARATIVE STUDY USING PROPENSITY SCORE MATCHING

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INTRODUCTION AND OBJECTIVES: This study aimed to evaluate the immediate second resection of tumor bed after complete transurethral resection (TUR) could improve the quality of the initial TUR.

METHODS: We retrospectively collected the data from 304 patients (immediate second resection group; ISR group) who had underwent immediate second resection as previously reported (Kim et al. J Endourol 2008) and 232 patients (non-second resection group; NSR group) who had not undergone immediate second resection by other surgeon. Confounding variables including age, gender, multiplicity of tumor, tumor size, pathologic tumor stage, pathologic tumor grade were matched in the two study groups using propensity score matching.

RESULTS: The propensity score matched model included 6 variables, and matching by propensity score yielded 170 patients in ISR group matched to 170 patients in NSR group. (ISR group; 97 Ta, 6 CIS and 67 T1, NSR group; 94 Ta, 7 CIS and 69 T1). Of the patients who received restaging TUR (ISR group; 46 vs. NSR group; 39), the absence of residual tumors was significantly greater in ISR group than NSR group (74.3% vs. 47.8%, $p=0.002$). Among the patients with non-muscle invasive bladder tumor, ISR group demonstrated significantly better outcomes compared to NSR group in terms of 2-year RFS (82.9% vs.66.1%, $p<0.001$). The patient with high risk disease showed that the 2-year RFS was better for those who underwent immediate second resection than those who did not (83.7% vs. 56.6. $p<0.001$).

CONCLUSIONS: After controlling for variables affecting disease recurrence, the immediate second resection of tumor bed after complete TUR of bladder tumor improved recurrence free survival in patients with non-muscle invasive bladder tumor.

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PD48-03

RISK FACTORS FOR RESIDUAL DISEASE AT RE-TUR IN T1G3 BLADDER CANCER

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INTRODUCTION AND OBJECTIVES: Goals of transurethral resection of a bladder tumour (TUR) are to completely resect the lesions and to make a correct diagnosis in order to adequately stage the patient. It is well known that the presence of detrusor muscle in the specimen is a prerequisite to minimize the risk of under staging. Persistent disease after resection of bladder tumours is not uncommon and is the reason why the European Guidelines recommended a re-TUR for all T1 tumours. It was recently published that when there is muscle in the specimen, re-TUR does not influence progression or cancer specific survival. We present here the patient and tumour factors that may influence the presence of residual disease at re-TUR.

METHODS: In our retrospective cohort of 2451 primary T1G3 patients initially treated with BCG, pathology results for 934 patients (38.1%) who underwent re-TUR are available. 75.4% had multifocal tumours, 42.7% of tumours were more than 3 cm in diameter and 25.8% had concomitant CIS. We analyse this subgroup of patients who underwent re-TUR: there was no residual disease in 267 patients (28.6%) and residual disease in 667 patients (71.4%): Ta in 378 (40.5%) and T1 in 289 (30.9%) patients. Age, gender, tumour status (primary/recurrent), previous intravesical therapy, tumour size, tumour multi-focality,

presence of concomitant CIS, and muscle in the specimen were analysed in order to evaluate risk factors of residual disease at re-TUR, both in univariate analyses and multivariate logistic regressions.

RESULTS: The following were not risk factors for residual disease: age, gender, tumour status and previous intravesical chemotherapy. The following were univariate risk factors for presence of residual disease: no muscle in TUR, multiple tumours, tumours > 3 cm, and presence of concomitant CISDue to the correlation between tumor multi-focality and tumor size, the multivariate model retained either the number of tumors or the tumor diameter (but not both), $p < 0.001$. The presence of muscle in the specimen was no longer significant, $p = 0.15$, while the presence of CIS only remained significant in the model with tumor size, $p < 0.001$.

CONCLUSIONS: The most significant factors for a higher risk of residual disease at re-TUR in T1G3 patients are multifocal tumours and tumours more than 3 cm. Patients with concomitant CIS and those without muscle in the specimen also have a higher risk of residual disease.

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PD48-04

CLINICAL BENEFITS OF COMBINED TECHNIQUE TRANSURETHRAL EN-BLOC + ENDOSCOPIC MUCOSAL RESECTION FOR NON-MUSCLE INVASIVE BLADDER CANCER, ESPECIALLY IN LARGE TUMOR.

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INTRODUCTION AND OBJECTIVES: Transurethral resection (TUR) is standard therapy for non-muscle invasive bladder cancer (NMIBC). Radical resection is an important predictor for outcome, and accurate pathological diagnosis is the key determinant factor to decide treatment strategy after TUR. In short, TUR are expected to complete excision and accurate pathological diagnosis for improved the prognosis in patients with NMIBC. Although TUR methods are established, pathological diagnosis is difficult because of heat denaturation and burn mark. In recent years, transurethral En-bloc resection technique is reported to be useful for judging cancer invasion in NMIBC. However, such method has disadvantage in prolongation of surgical time, particularly in large tumors. In this study, we investigated the usefulness and safety of combination therapy of electrical En-bloc resection and endoscopic mucosal resection (En-bloc + EMR) in NMIBC patients.

METHODS: We analyzed 30 patients who were clinically diagnosed with NMIBC. The median of the tumour diameter was 30 (15−55) mm. At first, a tumour mass was cut by using CAPTIVATOR II (Boston Scientific) in the same way as EMR. Subsequently, a circular incision was created around the residual tumour, maintaining a distance of approximately 5−10 mm from the tumour edge, for the En-bloc resection. For the control, TUR was performed in 16 patients that were matched for tumour diameter and clinical stage. All surgeries were performed by one urologist. Before the patients were enrolled, the institutional ethical committee approved the study, and written informed consent was obtained.

RESULTS: The mean operation time for EMR and En-bloc resection was 1.2 and 13.9 min respectively and total operation time was 15.0 min. That was similar to that for TUR ($P = 0.94$, mean $= 16.2$ and SD $= 3.8$ min). One patients had mild perforation of the bladder. However, no severe complications were observed and no significant difference was found regarding periods of catheterization and hospitalization. The pathologists can diagnose the invasion status with considerable certainty in all specimens obtained by En-bloc + EMR, compared to by TUR because of less heat denaturation and burn mark.

CONCLUSIONS: Our results showed En-bloc + EMR technique is a useful and safe. We believe that this technique is particularly suitable for large tumors because control of bleeding and visual field are clearly better than TUR. In addition, this technique has an advantage in accurate pathological diagnosis to distinguish pTa and pT1.

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PD48-05

METRIC SUB-STAGE ACCORDING TO MICRO AND EXTENSIVE LAMINA PROPRIA INVASION IMPROVES PROGNOSTICS IN T1 BLADDER CANCER

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INTRODUCTION AND OBJECTIVES: Management of T1 bladder cancer (BC) is controversial and reliable prognostics are urgently needed. We evaluated the clinical impact of two systems to sub-stage T1-BC on a large series of T1-BC patients treated with Bacillus Calmette-Guerin (BCG).

METHODS: We included 601 patients with primary (first tumor) T1-BC, who were treated with at least one induction schedule of BCG instillations and followed in four university hospitals. The slides were reviewed by 3 uro-pathologists and sub-staged according to two classifications: Metric sub-stage according to T1micro-invasive (T1m - lamina propria invasion <0.5mm) vs. T1extensive-invasive (T1e - invasion ≥ 0.5mm) and secondly, according to presence or absence of muscularis mucosae invasion (MM - T1a vs. T1b). Prognostic value for progression-free survival (PFS) and cancer-specific survival (CSS) were analyzed for each system with a multivariable step-wise cox-regression model. We corrected for sex, age, size ($>$3cm vs. $\leq$3 cm), concomitant CIS, WHO 1973 and WHO 2004 grade.

RESULTS: Median follow-up was 5.9 (IQR 3.3-9.0) years. Median age was 71 (IQR 15) years, 150 (25%) patients were female. Concomitant CIS was found in 196 (33%) cases. Metric sub-staging was possible in all cases. T1m was found in 213 (35%) tumors vs. 388 (65%) T1e. Based on MM invasion, 281 (47%) tumours were staged T1a vs. 320 (53%) T1b. MM was identified at the invasion front in 466 (78%) tumors. During follow-up, progression ($\geq$cT2 and/or N1 and/or M1) was found in 148 (25%) patients and 95 (16%) patients died of BC. On univariable analysis, both sub-staging systems were significantly associated with PFS and CSS. On multivariable analysis, metric (T1m/e) sub-stage (T1e vs. T1m; HR 3.8, 95%CI 2.3-6.0, $p<0.001$) and WHO 1973 grade (G3 vs. G2; HR 1.8, 95%CI 1.2-2.7, $p=0.006$) were prognostic for progression. Independently associated with worse CSS were T1e (HR 2.7, 95%CI 1.6-4.8), WHO 1973 G3 (HR 2.6, 95%CI 1.4-4.7, $p=0.002$), increasing age (HR 1.03, 95%CI 1.01-1.05, $p=0.002$) and tumor size $>$3 cm (HR 1.8, 95%CI 1.2-2.9, $p=0.008$).

CONCLUSIONS: In this multi-center study, metric (T1m/e) sub-stage proved a very reliable and strong prognosticator for progression and cancer-specific survival. Our results suggest that metric T1 sub-stage may aid in treatment decision-making between conservative treatment and radical cystectomy for clinical T1-BC. T1a/b sub-stage has inferior prognostic value and reproducibility. Ultimately, metric sub-stage (T1m/e) may be incorporated in the TNM classification system for urinary BC.

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PD48-06

2 YEAR CLINICAL AND IMMUNOLOGIC OUTCOMES OF INTRADERMAL BCG PRIMING PRIOR TO INTRAVESICAL INDUCTION IMMUNOTHERAPY FOR HIGH RISK NON-MUSCLE INVASIVE BLADDER CANCER

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