RESEARCH ARTICLE

Non-metastatic Upper Tract Transitional Cell Carcinoma: Single Center Experience

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Abstract

Background: Upper tract transitional cell carcinomas (UTCC) are relatively uncommon but prognosis is generally worse than TCC of bladder. Methods: Between March 2004 and June 2012, patients with initial non-metastatic UTCC were assessed in the Medical Oncology and Urology Departments of Ataturk Training and Research Hospital. Results: A total of 11 patients with initially non-metastatic UTCC were detected in the 8 year period, all males. Median age of was 62 (range, 38-74). Six lesions were located in the renal pelvis and 5 in the ureter. Nephroureterectomy was performed in 9 patients, and distal ureterectomy and cuff excision of the bladder in the remaining 2. The majority (n= 9) had high grade tumors. Median primary tumor diameter was 3.5 cm (range, 0.7-10). Five patients (45.5%) were stage I, 2 (18.2%) were stage II, and 4 (36.4%) were stage III. While adjuvant chemotherapy was not applied for stage I and II disease (n= 7), 4 to 6 courses were applied for 3 of the stage III patients. Also one stage III case received adjuvant radiotherapy. Up to 100 months follow-up, median overall survival was 13 months (range, 5-100 months). While stage I and II patients are following-up without muscle-invasive progression, 2 of stage III patients demonstrated progression. Conclusion: We need more collaborative studies to determine management of especially pT3-pT4 patients with UTCC.

Keywords: Transitional cell carcinoma - renal pelvis - ureter - management

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Introduction

Upper tract (renal pelvis and ureter) transitional cell carcinomas (UTCC) are relatively uncommon, 5-10% of all TCC (Green et al., 2012). UTCC are less favorable than the TCC of bladder (Rai et al., 2012, Roupret et al., 2012). Actually, TCC of bladder and UTCC are clearly two distinct diseases, these differences and rarity of UTCC may be prevent to optimization therapy (Rai et al., 2012). The primary treatment of UTCC is surgical, adjuvant chemotherapy should be considered in muscle invasive disease (Roupret et al., 2012). We have high volume practice for patients with TCC, and here-in we report outcome of patients with UTCC in the last 8 years.

Materials and Methods

Between March 2004 and June 2012, a total of 11 patients with initially non-metastatic UTCC were detected in Medical Oncology and Urology Departments at Ataturk Training and Research Hospital and assessed for clincal characteristics.

Results

The patient data are shown in Table 1. All patients performance score was one. Six patients were located on renal pelvis and 5 patients were located on ureter; proximal (n=1), middle (n=1) and distal (n=3). All patients had clear surgical margins and there were no lymph node involvement clinically or pathologically. Concurrent bladder TCC was no present. Because of non-muscle invasive recurrence 2 of 11 patients had second surgery during follow-up. While adjuvant chemotherapy was not applied in stage I and II disease (n=7), 4-6 course adjuvant chemotherapy (combination of cisplatin and gemcitabine) was applied in 3 of stage III patients (75%). Also one of 3 patients had adjuvant radiotherapy. Median overall survival was 13 months (range, 5-100 months). One of stage III patients did not receive adjuvant treatment. Stage I and II patients are following-up without progression. One of the patients who received adjuvant chemotherapy developed bone and liver metastases on the 4th month of adjuvant treatment, one of them was died 10 months of surgery because of unrelated to disease. The third patient

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Table 1. Patient Characteristics

		No (%)
Age		62 years (range 38-74)
Male/ female		11/0
Initial symptom	Hematuria	8
	Flank pain	3
Primary	Renal pelvis	6 (54.5)
	Ureter	5 (45.5)
Left/ right		7/4
Surgery	Nephroureteroctomy	9 (81.8)
	Distal ureterocytomy+ cuff resection of the bladder	2 (18.2)
Surgical margins (R0)		100%
Primary tumor		3.5 cm (range 0.7-10)
Grade	High grade	9 (81.8)
	Low grade	2 (18.2)
Stage (I/ II/ III)		5 (45.5)/ 2 (18.2)/ 4 (36.4)
Adjuvant treatment	Stage I-II	0 (0/7)
	Stage III	75 (3/4)
Median follow-up (months)		
Median OS (months)		13 (range, 3-98)

who received adjuvant treatment is following up without recurrence 6 months after surgery.

Discussion

TCC mainly affect the elderly males and more common in the developing countries (Green at al., 2012; Rai et al., 2012; Roupret et al., 2012). In the present study all patients were male and slightly younger (median age; 62) than the previously reported. Also UTCC at diagnosis were higher grade in present study (81.8%) than the literature (60%) (Roupret et al., 2012). It can be explain with heavy smoking habit in our cohort. Painless haematuria is a typical clinical presentation and majority of the patients (81.8%) presented with this finding in our study. Although renal pelvis tumors are nearly twice as common as ureteral tumours 3 (Roupret et al., 2012), nearly equivalent in our study.

While intracavitary treatments are an essential component of for most non-invasive TCC of bladder, patients with UTCC has been rarely used. There is no data about neoadjuvant chemotherapy in patients with clinically T2-4 and node negative UTCC (Green at al., 2012). Intracavitary treatment and neoadjuvant treatment were performed none of the patients. UTCC series report disappointing 3-year survival rates after nephroureterectomy (NU) of 0-25%, more recent series report long-term survival of more than 8 years (Slaton JW., 1999). Lymph node dissection (LND) at the time of surgery is preferred because of in part to the variable lymphatic drainage along the course of the ureter (Green at al., 2012). All of our patients clinically and/or pathologically node negative.

There are conflicting results found renal pelvic tumor location versus ureteral location to independently predict non-organ-confined UTCC (Raman et al., 2010, Yafi et al., 2012). These findings were also supported with other studies which showed that factors intrinsic to tumor biology such as stage, grade, lymphovascular invasion, and lymph node metastasis predicted survival (Cha et al., 2012, Faveretto et al., 2010).

Conservative surgery is preferred for UTCC with a good prognosis instead of NU (Rai et al., 2012). Recent study compared survival outcome after segmental ureterectomy versus radical NU in TCC of ureter. Short-term oncological outcomes were similar and they concluded that segmental ureterectomy should be considered an option (Colin et al., 2012). We performed conservative surgery in 2 patients and they are follow-up without recurrences.

TCC can develop in a synchronous or metachronous multifocal manner at different urinary tract sites (Roupret et al., 2012). In our study 2 patients with developed metachronous TCC, but these recurrence non-invasive and treated with surgically. Drawbacks of the study are retrospective nature and small number patients.

In conclusion, early (pT1-pT2) UTCC has excellent prognosis without adjuvant treatment, however majority of the pT3-pT4 patients with UTCC were recurred even treated with adjuvant treatments. We need more collaborative studies to determine to management of especially pT3-pT4 patients with UTCC.

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