# Prostatic urethral infiltrative tumour – Case report

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**Abstract**

**Purpose:** The main purpose of this article is to present the management of a prostatic urethral infiltrative tumour and to assess, if possible, some criteria of therapeutic strategy in these so called "borderline" oncologic cases.
**Patient, Method and Results:** We present the case of R.F., aged 76 years, who was admitted in hospital in August 2012 for macroscopic (gross) haematuria. The history of the patient revealed no coagulation disorders, anticoagulation therapy, vascular disease or other medical causes of haematuria. The conventional urological investigation (blood and urinalysis, renal ultrasonography) was performed without showing any pathological signs. The DRE was normal and the PSA was 1.2 ng/ml. The next step was to perform a diagnostic cystoscopy which discovered a prostatic urethra tumour located at the very level of veru montanum. The tumour was resected by TURP. The histopathological specimen resulted in a G1 urothelial carcinoma without any kind of stromal invasion. Based on a NCCN Guidelines recommendations on urothelial carcinoma of the prostate and having in mind the fact that we were dealing with a 76 years old patient we performed 6 cycles of BCG (the induction Lahm scheme). In November 2012 the three months cystoscopy revealed a tumor recurrence at the same initial situs. The histopathological specimen of the second TURP proved to be a G3 urothelial carcinoma. The chest X-ray and pelvic CT were negative in terms of distance metastasis. We performed a radical cystectomy with cutaneous bilateral ureterostomy. The final histopathological result was a pT3N0M0G3 TCC of the prostate with CIS of the bladder neck and a synchronous pT2cN0M0 Gleason score 6 (3+3) adenocarcinoma of the prostate respectively (despite the PSA level of 1,2 ng/ml).
**Discussion:** We have chosen this case report due to the interesting isssues it rises: how can one be sure that there is no more residual tumor after a TURP performed on the level of veru montanum, having in mind the risk of post procedural urinary incontinence; if the patient was younger, would our treatment be more aggressive?; the difference between first and second histopathological specimen rises the question: how sure one can be that the pathologist is right? Do we always need a second TURP since 10% of pT1G3 tumours are understaged T2 tumours? [3]
**Conclusions:** The management of urothelial carcinoma of the prostate is a very challenging issue. Although the EAU and NCCN Guidelines are not very clear in this matter, we consider mandatory to perform a second TURP, especially when the location of the tumour is atypical, first resection was incomplete, the resected specimen contains no muscularis propria or the surgeon suspects a higher tumour grade based on the macroscopic aspect of the tumour.

**Key words:** prostatic urethral cancer; "borderline" oncologic cases; histopathological issues

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## Introduction

The primary urothelial carcinoma with transitional cells affecting the prostate represents a histopathological and, implicitly, particular clinical entity, raising special problems of diagnosis and therapeutic management in the absence of certain clear directions on the part of European and American guidelines, which provide only recommendations in this respect. It represents 0,4–2% of the total prostate neoplasms (Algaba F, 1985; Busto Castañón L, 1990; Mottola A, 1991; Queipo Zaragoza JA, 2000; Mallen Mateo E, 2004) [1]

In 1953, Ortega describes for the first time the urothelial carcinoma which imports the prostatic urethra (Ortega et al, 1953). The prostatic urethral carcinoma is associated with urothelial carcinoma in 90% of the cases, an elementary CIS, most of the patients developing multifocal vesical tumors. The incidence of the prostatic disease with patients suffering from primary urothelial carcinoma is, however, of only 3% (Rikken et al, 1987; Millan-Rodriguez et al, 2000). [2]

In this context, the main role for assuming the therapeutic decision falls upon the clinical surgeon, preferably after the case had been integrated within a medical board in which the presence of the anatomopathologist and the oncologist respectively are imperiously necessary.

## The Patient, Method and Results

The patient R.F., aged 76, came to the Emergency Room in August 2012 for macroscopic haematuria in progress (the first presentation). The abdominal ultrasound examination done in the emergency room didn't reveal pathological elements. The bio-humoral status of the patient was also in normal conditions. The DRE revealed a moderately hypertrophic prostate of adenomatous consistency, without malignant characters. The value of the PSA effected after the hospitalization in Oradea Urology Clinic was of 1,2 ng/ml.

In these conditions, the patient was scheduled for an evaluating cystoscopy. The endovesical aspect was normal, with prostatic lobes moderately hypertrophic but with the presence at the level of the prostatic utricle (veru montanum) of an exophytic, cauliflower-like formation. The localization of the tumoral formation raised technical problems regarding the probability of the post-procedural urinary incontinence occurred after a complex resection (fig. 1). The histopathological examination of the resected piece (IHC) objectivized a G1 urothelial carcinoma without aspects of stromal invasion (stage 1 after Hardeman & Soloway taxonomy, adapted after World J, respectively Tis pu after the classification from TNM 1997). [1]

Taking into account the patient's age, the histopathological problem as well as the recommendations of the NCCN guidelines, the application of an instillational therapy of unspecific immunostimulation (BCG) had been decided, knowing the fact that superficial tumors of the prostate can be conservatively cured if they are completely resected and treated with intravesical instillations, the transurethral resection (TUR) with intravesical BCG providing a significantly better prevention in tumoral recurrence Ta and T1 of the vesical cancer than if it's given only by TUR (*Palou J*, 1996). [1, 2] An induction cycle was therefore carried out within the Lahm schema of 6 weekly instillations, well tolerated by the patient.

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|---|---|
| Stage 1 | Tumor limited to the prostatic urothelium |
| Stage 2 | Invasion of the ducts and acini, but limited to the basal membrane |
| Stage 3 | Stromal invasion |

*Hardeman & Soloway Taxonomy (adapted after World J)*

| | |
|---|---|
| Tis pu | CIS, affecting the prostatic urethra |
| Tis pd | CIS, affecting the prostatic ducts |
| T1 | Tumor invading the sub-epithelial connective tissue |
| T2 | Tumor invading the prostatic stroma, the spongious body or the periurethral muscle |
| T3 | Tumor invading the cavernous body, the prostatic capsule or the vesical neck (extraprostatic extension) |
| T4 | Tumor invading the surrounding organs |

*The TNM 1997 Classification of the Urothelial Carcinoma (with transitional cells) of the Prostate (where: CIS represents carcinoma in situ, adapted after TNM Supplement)*

In October 2012, the patient came to the clinic for an evaluating cystoscopy before initiating the maintenance cycle (3 weekly instillations with BCG once in 3 months). The urinary cytology in three successive samples was negative. The cystoscopy however revealed the tumoral recurrence placed at the same utricular level. The thorough and extensive resection of the formation was performed, the histopathological examination revealing this time tumoral residual infiltrations having the structure of an urothelial carcinoma with a high degree of malignancy G3 and an aspect of stromal invasion. Knowing the fact that the prostatic stromal invasion is labeled as stage T4a in AJCC Staging manual, the performance of a radical intervention was

decided. (Edge et al, 2010) [2].

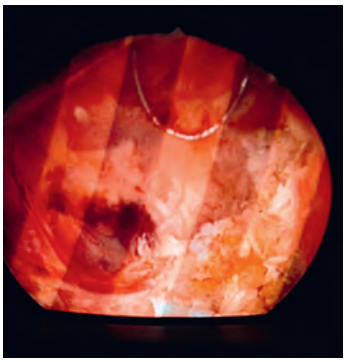
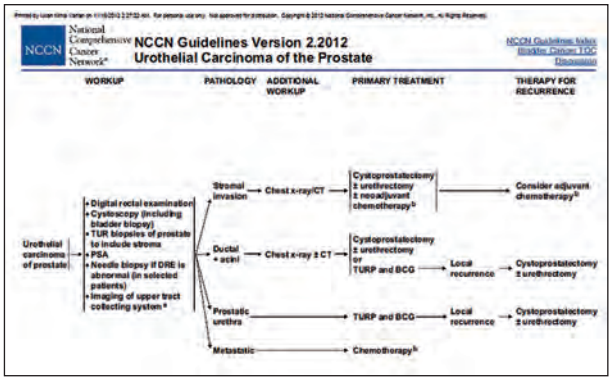


*Image 1. TURP aspect of the urethral tumor*




*NCCN 2012 guides for prostatic urothelial carcinoma*

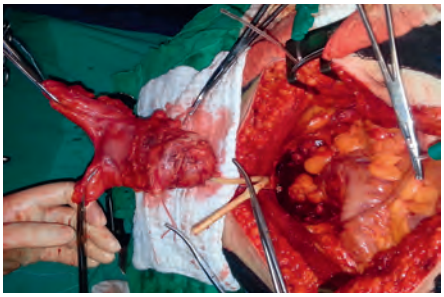


*Image 2. En bloc resection of the bladder and prostate and seminal vesicles*

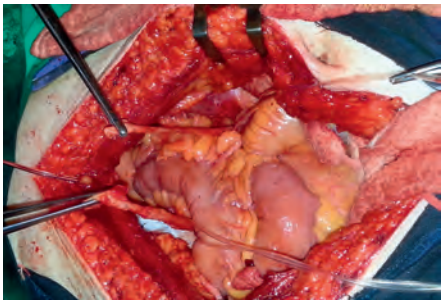


*Image 3. The 2 ureters, isolated and prepared for urinary diversion*

Although the definitive optimal therapy for the primary urothelial carcinoma remains indefinite [1], there not being a consensus related to the radical optimal surgery (radical prostatectomy *versus* cystoprostatectomy), the en bloc excision of the urinary bladder, the prostate and the seminal vesicles was decided, taking into account the risk factors for the invasion of the prostatic urethra (CIS of the vesical neck and the history of intravesical chemotherapy respectively) (Wood et al, 1989) [2].

The histopathological examination of the piece excided disclosed an urothelial carcinoma of the prostatic urethra expanded at the capsular level, with a high degree of malignancy labeled as pT3N0M0G3 (TNM 1997), associated with CIS at the level of the vesical neck and bladder trigone, and a conventional adenocarcinoma of the prostate respectively (a synchronous tumor) pT2cN0M0 Gleason score 6 (3+3). The ureteral biopsies didn't reveal any aspect of tumoral invasion at this level. The evolution of the patient was an auspicious one and he was discharged postoperatively in the 12$^{th}$ day, without signs of relapse or metastases at a distance of 3 months.

## Discussions

We chose to present this case due to the interesting aspects of diagnosis and therapy which it obviously imposes: does the urologist always have the certainty that there is no residual tumoral tissue after a TUR-P performed at the level of veru montanum, considering the associated risk of post-procedural urinary incontinence? If the patient had been younger, would the treatment have been a more aggressive one? The differences between the first and the second histopathological sample raise the following question: how much can we rely on the histopathological examination under the conditions in which there is no anatomopathologist dedicated to the urological pathology? Do these cases always need a second TUR if we take into account that 10% of the pT1G3 tumors represent in fact pT2 tumors unrecognized as such? [3] Is it preferable to perform an extensive resection in the perimontanal area and (eventually) exempt the patient from the necessity of a radical intervention to the disadvantage of (sometimes total) urinary incontinence which can post-procedurally occur?

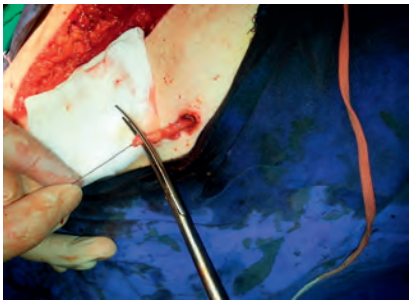


*Image 4*
*Biopsy of the ureter*



*Fig. 5 Final aspect of the surgery, 24 hours postoperative*

## Conclusions

The management of the prostatic urothelial carcinoma represents an issue still under scrutiny. Although both EAU and NCCN guidelines are not very clear and explicit in this respect, we consider it compulsory to perform a re-TURP, especially when the localization of the tumor is atypical, the first resection was incomplete, the resected sample doesn't contain muscular layer (muscularis propria) or the surgeon suspects a higher tumoral degree relying on the macroscopic aspect of the tumor. Under the conditions in which there are histopathological signs of stromal or acinar invasion at the first resection or tumoral relapse after the instillational therapy with BCG, we consider it mandatory to perform the radical intervention of excising the bladder, prostate as much as the seminal vesicles.

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