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Occurrence of restage transurethral resection of bladder tumor (re TURBT) in north Indian patients

Dr. Rohit Upadhyay[1], Dr. Khalid Mahmood[2*], Dr. Amit Kumar[3], Dr. Kamalkant Singh[4], Dr. Prabhat[5]
[1-2] Associate Professor, Department of Urology, Indira Gandhi Institute of Medical Sciences, Patna Bihar, India
[3-5] Senior Resident, Department of Urology, Indira Gandhi Institute of Medical Sciences, Patna Bihar, India
[*] Corresponding Author: Dr. Khalid Mahmood

Abstract
Approximately 70–80% of patients with bladder cancer initially present with a non-muscle-invasive disease (NMIBC). In these patients, transurethral resection (TURBT) with or without adjuvant intravesical chemo- or immunotherapy gives a chance for cure. However, for stage T1 or high-grade (HG) tumors, there is a considerable risk of residual disease and/or understating after initial TURBT. Hence from the above literature findings the present study was planned to assess the clinical value and safety of reTURBT in different clinical indications.
The total 25 patients were included in the study from Indira Gandhi Institute of Medical Sciences, Patna. The enrolled patients were having proven histological diagnosis of nonmuscle invasive urothelial cancer with either high grade or T1 cancers on histopathology were enrolled.
ReTURBT is a safe procedure that improves the staging of bladder cancer and increases the chances for complete cancer ablation. It should be considered in all patients with stages T1, Tx, or high-grade bladder cancer.

Keywords: transurethral resection (TURBT), re TURBT, T1, bladder cancer

Introduction
A TURBT is a procedure in which bladder tumors can be removed from the bladder wall. This is a procedure performed completely with a scope that is inserted through the urethra into the bladder. It is generally performed in the hospital setting as an outpatient with the patient anesthetized. During the procedure, a scope with a special cutting instrument is inserted through the natural channel into the bladder and then the tumor is removed. The resulting area of resection can then also be cauterized by specialized instruments.
Bladder cancer is any of several types of cancer arising from the tissues of the urinary bladder. It is a disease in which cells grow abnormally and have the potential to spread to other parts of the body. Symptoms include blood in the urine, pain with urination, and low back pain. Risk factors for bladder cancer include smoking, family history, prior radiation therapy, frequent bladder infections, and exposure to certain chemicals. The most common type is transitional cell carcinoma. Other types include squamous cell carcinoma and adenocarcinoma. Diagnosis is typically by cystoscopy with tissue biopsies. Staging of the cancer is typically determined by medical imaging such as CT scan and bone scan [1].
Treatment depends on the stage of the cancer. It may include some combination of surgery, radiation therapy, chemotherapy, or immunotherapy. Surgical options may include transurethral resection, partial or complete removal of the bladder, or urinary diversion.
Bladder cancer characteristically causes blood in the urine (hematuria), which may be visible (gross/macroscopic hematuria) or detectable only by microscope (microscopic hematuria). Blood in the urine is the most common symptom in bladder cancer, and is painless. Visible blood in the urine may be of only short duration, and a urine test may be required to confirm non visible blood. Between 80-90% of people with bladder cancer initially presented with visible blood. Blood in the urine may also be caused by other conditions, such as bladder or ureteric stones, infection, kidney disease, kidney cancers or vascular malformations, though these conditions (except kidney cancers) would typically be painful [2].
Other possible symptoms include pain during urination (dysuria), frequent urination, or feeling the need to urinate without being able to do so. These signs and symptoms are not specific to bladder cancer, and may also be caused by non-cancerous conditions, including prostate infections, overactive bladder or cystitis. Patients with advanced disease refer pelvic or bony pain, lower-extremity swelling, or flank pain. Rarely, a palpable mass can be detected on physical examination.
The diagnosis of bladder cancer can also be done with a Hexvix/Cysview guided fluorescence cystoscopy (blue light cystoscopy, Photodynamic diagnosis), as an adjunct to conventional white-light cystoscopy. This procedure improves the detection of bladder cancer and reduces the rate of early tumor recurrence, compared with white light cystoscopy alone. Cysview cystoscopy detects more cancer and reduces recurrence. Cysview is marketed in Europe under the brand name Hexvix [3].
However, visual detection in any form listed above, is not sufficient for establishing pathological classification, cell type or the stage of the present tumor. A so-called cold cup biopsy during an ordinary cystoscopy (rigid or flexible) will not be sufficient for pathological staging either. Hence, a visual detection needs to be followed by transurethral surgery. The procedure is called transurethral resection of bladder tumor (TURBT). Further, bimanual examination should be carried out before and after the TURBT to assess

whether there is a palpable mass or if the tumour is fixed ("tethered") to the pelvic wall. The pathological classification obtained by the TURBT-procedure, is of fundamental importance for making the appropriate choice of ensuing treatment and/or follow-up routines [4].

Approximately 70–80% of patients with bladder cancer initially present with a non-muscle-invasive disease (NMIBC). In these patients, transurethral resection (TURBT) with or without adjuvant intravesical chemo- or immunotherapy gives a chance for cure [5]. However, for stage T1 or high-grade (HG) tumors, there is a considerable risk of residual disease and/or understaging after initial TURBT. The risk of residual disease may be as high as 50–70%, while the understaging may affect even 20–30% of patients [6]. For this reason, many authors underline the need for restaging TURBT (reTURBT) in these specific clinical situations.

Hence from the above literature findings the present study was planned to assess the clinical value and safety of reTURBT in different clinical indications.

Methodology

The total 25 patients were included in the study from Indira Gandhi Institute of Medical Sciences. The enrolled patients were having proven histological diagnosis of nonmuscleinvasive urothelial cancer with either high grade or T1cancers on histopathology were enrolled.

The cystoscopic findings were recorded during the restage TURBT similar to that at the initial TURBT. Inpatients with no obvious tumors, resection of the tumor bed was performed and sent for analysis. The histopathologyreports of all patients were recorded.

Results & Discussion

The data from the 25 patient were collected and presented as below. The patients were histological diagnosed with the nonmuscle invasive urothelial cancer with either high grade or T1 cancers.

Table 1: Demographic data

Characteristic	No. of Cases
Gender	
Male	15
Female	10
Age (Years)	28 – 68

Table 2: No. of Cases Undergone TURBT No. of Cases positive for restage TURBT

Parameter	No. of Cases Undergone TURBT	No. of Cases positive for restage TURBT
Size of growth (cm)		
<3	15	5
>3	10	3
Type of growth		
Papillary	20	8
Solid	5	3
Number of growths		
Single	12	3
Multiple	13	6
Grade		
Low grade	13	4
High grade	12	5
Muscle status		
Included	17	6
Not included	8	3
Recurrence rate		
Tumor present on restage	7	3
No tumor on restage	18	2
Progression rate		
Tumor present on restage	7	2
No tumor on restage	18	2
Recurrence rate		
Restage TURBT performed	21	4
Restage TURBT not preformed	4	1

The strategy of reTURBT remains under the debate. Kamat directly calls it a failure of urological technique, which by definition assumes the risk of incompleteness [7]. Also, the indications for reTURBT are not clear and vary between institutions and authorities. Expert panel of the European Association of Urology recommends reTURBT in patients with T1 tumors, high-grade cancer, if there is no muscle layer in the specimen and after incomplete initial TURBT [8]. However, the evidence behind this recommendation is not consistent. In the recent update of EAU guidelines, lack of muscle in specimen without evidence of T1 or HG has been questioned as indication to restaging resection in recurrent tumors.

Only the presence of a solid tumorgrowth at initial TURBT was associated with higher chances of finding a tumor at restage. Characteristics such as grade of the tumor and the size of thetumor did not significantly affect the outcomes of restage surgery. Similar observations about the number of tumors was made in another study performed at CMC Vellore [9]. Where they identified solitary papillary lesions as a subgroup where second TUR is avoidable. Managing T1 lesions and high-grade lesions by a single TURBT is challenging. Guidelines state that restage TURBT is essential because of high risk of recurrence and progression.

Restage TURBT has shown to be effective in staging the disease appropriately and there by prognosticating it better. It

also has shown that by early detection and resection of residual tumor restage TURBT reduces the risk of recurrence and progression. In an Indian setup, where the resources are limited compared to the patient population, there is always a dilemma regarding this second surgery. At times, it is very difficult to convince a patient to undergo second surgery when he is symptom free. It is an economic burden to him as well as adds to the health care costs of the nation.

Conclusion

ReTURBT is a safe procedure that improves the staging of bladder cancer and increases the chances for complete cancer ablation. It should be considered in all patients with stages T1, Tx, or high-grade bladder cancer.

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