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Is Re TURBT Clinically Significant in Non Muscle Invasive Bladder Cancer?

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Abstract

Aim: The aim of the study was to define the utility of restage TURBT and to evaluate the impact of restage TURBT on the incidence of tumour recurrence and progression in patients with non-muscle invasive bladder cancer. **Materials and Methods:** A prospective observational study was performed with an aim of analyzing the utility of restage TURBT at a tertiary care centre during July 2018-December 2019. Patients enrolled for restage TURBT were proven with histological diagnosis of non-muscle invasive bladder cancer. All patients underwent restage TURBT within 4 to 6 weeks after the initial resection. Comparison of histological findings of initial TURBT and restage TURBT were done. **Results:**Total data available for 68 patients. Among them 27 patients (40%) were detected to have residual disease. Out of this in 11 patients (40%) high grade tumour residual disease was established and in 14 patients (52%) low grade tumour residual disease was established. Two patients (8%) were detected to have muscle invasive bladder cancer after restage TURBT. **Conclusion:**The study concluded that the restage TURBT is of clinical significance in non-muscle invasive bladder cancer as it helps in early detection, treatment and prognosis in cases of advanced bladder cancer.

Keywords: Restage TURBT; NMIBC; Residual bladder tumour.

Introduction

TURBT is considered the treatment of choice in patients with non-muscle invasive bladder cancer.² Studies have shown that approximately 80% of patients with bladder cancer are detected as non-muscle invasive bladder cancer.¹ The possibility of not achieving R0 resection of tumour by TURBT and high chance of progression of tumour itself being malignant makes non-muscle invasive bladder cancer a therapeutic challenge.² In other words if R0 resection of non-muscle invasive bladder cancer can't be achieved by TURBT there is very high chance that it can progress to muscle invasive bladder cancer. At the first resection, underestimation of pathologic stage occurs in 9–

49% patients with non-muscle invasive bladder cancer.³ Re-evaluation of the tumour bed by restage TURBT helps to access the local extension of the tumour and accurate staging of the tumour. A second TUR may change treatment strategy in patients with a diagnosis of NMIBC at initial TUR. In cases of upstaging to muscle infiltrating tumour (T2) detected at the second TUR, cystectomy or one of the bladder preservation protocols should be performed.³ The study aimed at evaluating the utility of restage TURBT and its impact on assessing the incidence of tumour recurrence and progression as well as possibility of changing treatment strategies due to staging errors in patients who were previously diagnosed with non-muscle invasive bladder cancer.

Materials and Methods

A prospective observational study of 68 patients was performed with an aim of analyzing the utility of restage TURBT at a tertiary care centre during July 2018 to December 2019. Patients enrolled for restage TURBT were proven with histological diagnosis of non-muscle invasive bladder cancer. The initial operation in all patients were performed by 2 experienced surgeons. The details regarding initial cystoscopy were recorded. TURBT at our centre was performed under spinal anaesthesia with adequate premedication. The surgeries were carried out in lithotomy position, consisted of bimanual palpation, urethral and bladder inspection and resection of all visible tumours using a 26 Fr resectoscope and monopolar cautery (settings 70 for pure cutting and 30 for coagulation on fulguration mode). After completion of TURBT, a deep biopsy from the base of the tumour was taken and specimens were sent separately for histopathological analyzes. Following the EAU guidelines, restage TURBT was advised at 4–6 weeks from initial TURBT. Similar to the initial TURBT cystoscopic findings of the restage TURBT

were recorded. The records of histopathological examination reports of all patients were kept. Random biopsies were not taken from bladder. During follow up, the complications of restage TURBT, recurrences and progression of the disease were recorded.

Results

Total data available for 68 patients. Residual disease was found in 27 patients (40%). Out of this in 11 patients (40%) of high grade tumour residual disease was established and in 14 patients (52%) of low grade tumour residual disease was established. Two patients (8%) were detected to have muscle invasive bladder cancer after restage TURBT.

The patients were followed up during the period of 1.5 years. 41 of 68 patients (60.2%) remained free of disease during the entire period, whereas 8 of 27 patients (31%) had recurrences at a different time: 5 patients in the first year and 3 patients at another 6 months. Progression occurred in two patients (7%) within 1.5 years

Table 1: Review of published studies on second TURBT for T1 high-grade bladder cancer.

Source	Year	No. of patients	No. of residual tumors (%)	Recurrence rate (%)	Progression rate (%)
Herr ⁶	2005	36	12 (33.3)	Unknown	25.0
Ali et al. ⁵	2010	91	37 (40.1)	Unknown	Unknown
Yucel et al. ¹⁰	2010	33	14 (42.4)	Unknown	18.2
Katumalla et al. ⁷	2011	50	18 (36.0)	35.0	4.0
Takaoka et al. ⁹	2013	73	37 (51.0)	40.0	16.0
Lazica et al. ⁸	2013	167	97 (58.1)	Unknown	Unknown
Current study	2015	29	22 (75.9)	34.5	24.1

Discussion

Second TURBT serves as an eye opener as the rate of bladder tumour detected in restage TURBT ranges from 33% to 76%,⁴ which conforms with our study. High grade lesions, tumour at multiple sites and those with no muscularis propria in the initial resection sample are considered to have higher risk of upstaging to muscle invasive bladder cancer.^{4,5} The results of our study complies with previous studies on second TURBT procedure. Table 1 summarizes the previous studies on second TURBT.³ Random biopsy was not done in our study as it might result in tumour seeding. Similar studies done previously showed that random biopsy rarely results in identification of additional neoplasms and increase tumour seeding.^{4,6}

The limitations of our study include relatively small number of subjects and short term follow up period. Also, the initial TURBT and restage TURBT were not performed by the same surgeon.

Conclusion

This study suggests that a routine second look resection should be considered in all non-muscle invasive bladder tumours in order to detect early residual tumour invasion, accomplish adequate tumour resection, reduce tumour burden before adjuvant treatment, reduce the frequency of tumour recurrence and delay progression and to identify patients who may need to undergo prompt cystectomy. Hence Restage TURBT is considered a diagnostic, therapeutic, prognostic and predictive

procedure, which is clinically significant in the management of non-muscle invasive bladder cancer.

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