

Outpatient Transurethral Laser Ablation for Urothelial Cancer – A safe alternative to TURBT in the era of COVID 19

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Introduction

Bladder cancer is the 11th most common cancer in the UK and 7th most common cancer in men. It is predominantly a disease of the elderly with incidence highest in those aged 85-89 years¹. Non-muscle invasive bladder cancer (NMIBC) accounts for 80% of all disease and TURBT is adequate for 70% of those with pTa/T1 disease². Over 40,000 TURBT or cystodiathermy procedures are performed in the UK annually. Thus, there is a huge disease burden in an elderly cohort with average length of stay post procedure of 1.6 days. Whilst TURBT remains the gold-standard treatment, outpatient based local anaesthetic treatments using a dual diode (980nm/1470nm) laser presents a true alternative. Transurethral Laser Ablation (TULA) is accepted by EUA for the management of small, superficial disease and can be performed in the outpatient setting³. It is portable, cost effective and compact. Moreover it is well tolerated by patients, who can continue their anticoagulant agents, and also has decreased morbidity than TURBT from complications such as bladder perforation. Furthermore TULA negates the need for general anaesthesia and can be delivered in an outpatient setting which has been beneficial during the current COVID pandemic. We present our prospective multi-centre study.

METHOD

A multi-centre prospective TULA database from three UK NHS Trusts was evaluated (Ashford and St. Peter's, Northwick Park and Charing Cross). The cohort selected for the database included those with recurrent non-muscle invasive bladder cancer, as well as those with high-grade NMIBC in the elderly and/or frail. All tumours were biopsied prior to ablation and patients were stratified by EORTC risk as well as histology. EORTC Risk groups are based on a large cohort of patients randomised into 7 EORTC trials with NMIBC disease undergoing TURBT. Each patient was assessed with regard to the Charlson Comorbidity Index as well as their Frailty Score. Recurrence and Progression rates were evaluated in our cohort which were then compared against EORTC risk groups. Finally we compared the economic burden of TULA against that of TURBT.

RESULTS

Our total cohort number was 475 patients and our cohort underwent 990 TULA procedures between 2014-19. The patients were a heterogeneous group of recurrent low-grade NMIBC and intermediate/high-risk NMIBC in the elderly & frail/co-morbid.

The mean age was 76 with a range from 35 to 97 years of age and the mean follow up was 28 months. The mean Frailty Index was 3.1 with a range of 1-7 and the mean Charlson Comorbidity Index was 3.2 with a range of 0-9.

We found that one-year outcomes from TULA are comparable to EORTC recurrence and progression rates when patients are managed by TURBT (Table 1).

Indeed, 47% of the cohort were on antiplatelet or anti-coagulation therapy and were able to continue these peri-procedure. Moreover no patients required overnight admission and no emergency admissions were recorded.

Finally, there were 22 patients that underwent 6 week re-resections for high-risk histology, with no residual disease.

CONCLUSIONS

Whilst TURBT remains the gold standard for the management of NMIBC, TULA is a safe and effective alternative. In the era of COVID-19, our data supports the potential to management the great majority of patients with NMIBC in an outpatient setting. Moreover this often comorbid patient population can avoid general anaesthesia and continue their anticoagulant agents. We therefore advocate TULA as a valuable therapy for NMIBC, especially for high-risk and co-morbid patients. During COVID this has helped prevent overnight admission and allowed timely patient care to continue.

Table 1 – TULA risk of Recurrence and Progression against EORTC risk

EORTC Recurrence Risk Score	Patients	Recurred	TULA Risk	EORTC Risk
0	0	0	n/a	15%
1-4	191	27	14%	24%
5-9	245	74	30%	38%
10-17	20	12	60%	61%
Benign	19			
EORTC Progression Score	Patients	Progressed	TULA Risk	EORTC Risk
0	186	0	0%	0.2%
2-6	186	18	10%	1%
7-13	41	0	0%	5%
14-23	43	7	16%	17%
Benign	19			



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