

Thulium Laser Endoscopic En Bloc Enucleation of Nonmuscle-Invasive Bladder Cancer.

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Author information

Abstract

OBJECTIVES: To evaluate if thulium laser enucleation of bladder tumor (ThuLEBT) offers any advantage over monopolar resection of nonmuscle-invasive bladder cancer (NMIBC) without increasing complications.

PATIENTS AND METHODS: From February 2012 to September 2013, 58 patients (41 males and 17 females) newly diagnosed with having a single papillary bladder tumor more than 1 cm in diameter were selected for this prospective study on ThuLEBT. A similar historical cohort of 61 patients who underwent traditional monopolar resection (TURB-T) of NMIBC (Group B) was used to compare the two procedures.

RESULTS: Mean tumor diameter in the ThuLEBT group was 2.5 cm (range 0.5-4.5). Mean operative time was 25 minutes (range 12-30). Re-resection and cold cup biopsy of the tumor base (in 90 days) were negative for bladder cancer (BC) persistence or recurrence in all patients with NMIBC treated with ThuLEBT. In Group B, seven patients were found with disease persistence. In eight cases of TURB-T patients, no detrusor muscle was identified, while it was always easily identified in the ThuLEBT group. No patient in Group A experienced obturator nerve reflection intraoperatively and no bladder perforation was evidenced in dome-located neoplasm; when involved, ureteral meatus was sharply excised without subsequent postoperative evidence of distortion. No significant intraoperative or postoperative bleeding occurred in all but one patient in the two groups.

CONCLUSIONS: ThuLEBT may represent a potential alternative to TURB-T, which nowadays is considered the standard for diagnosis and treatment of NMIBC. In our study, ThuLEBT allowed accurate reporting of neoplastic depth invasion, suggesting the possibility to avoid a second-look resection at 90 days. All the different intravesical sites of the BC may be enucleated with the thulium laser, which offers advantages over the monopolar energy, especially when the tumor is located in the lateral bladder wall, at the bladder dome, or in the perimeatal zone.

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