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Thulium and holmium LASER can be used in air for treatment of bladder tumours

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Introduction: Holmium and Thulium LASER ablation of superficial bladder tumours using 0.9%NaCl to distend the bladder is a well established procedure.

Purpose: To evaluate Holmium/Thulium LASER for ablating bladder tumours using air for bladder distension.

Materials and Methods: Twenty-patients with muscle invasive, non-operable bladder TCC, recurrent bleeding and poor performance status and 15 patients with recurrent superficial bladder TCC (CIS+PTa-1) had Thulium/Holmium ablation. Tumour diameter range was (0.56cm). All patients had 20ml 0.5% intra-vesical bupivacaine and lignocaine gel 30 minutes before the procedure. Fifty-ml syringe was used through Flexible cystoscopy to empty the bladder and introduce 200-300CC of air. Regular smoke evacuation with vent-gas suction was done. Power of 10-20watts used for muscle invasive tumours and 5-10 watts for superficial tumours. Highest available frequency and longest pulse duration were used with Holmium-LASER. The mean operative duration was 20 minutes. Intravesical MMC was used for superficial recurrences immediately after the procedure.

Results: None of the cases had haematuria after the procedure. All patients tolerated the procedures with no reported intra or postoperative pain. Three months check cystoscopy failed to show recurrence in all superficial cases. In the palliative case group, the procedure had to be repeated in 3 months to ensure local control.

Conclusion: The use of air to distend the bladder has proven to be safe and allowed for fast vaporisation of large bladder tumours under local anaesthesia. It helped to improve visualisation in bleeding tumours and easy reach of tumours in bladder dome.

It also allowed an easy reach for small tumours that could be difficult to reach with resectoscope.