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A MINIMALLY INVASIVE, TRANSURETHRAL ENDOSCOPIC HOLMIUM LASER APPROACH FOR THE TREATMENT OF URETHRAL EROSION

Hypothesis / aims of study

To evaluate the endoscopic use of Holmium laser (TEH) in the treatment of large urethral erosion (UE) from synthetic tape as an alternative to invasive and complex vaginal urethral reconstruction.

Study design, materials and methods

Following IRB approval, charts of women treated for UE using TEH were reviewed. Large UE was defined as involving over a quarter of the urethral circumference. (Figure 1) TEH was done with a 365 micron fiber passed inside an open ended ureteral catheter positioned in the HOLEP sheath to stabilize the laser fiber. (Figure 2) The procedure ended when the eroded sling was removed and the ends recessed underneath the urethral mucosa. (Figure 3) The number of TEH treatments for complete removal of eroded tape as demonstrated on follow up office cystoscopy, duration of each treatment, amount of mesh removed ("debulking"), and complications including stricture or fistula were recorded.

Figure 1

Figure 3

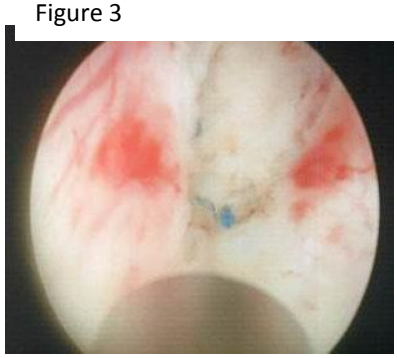
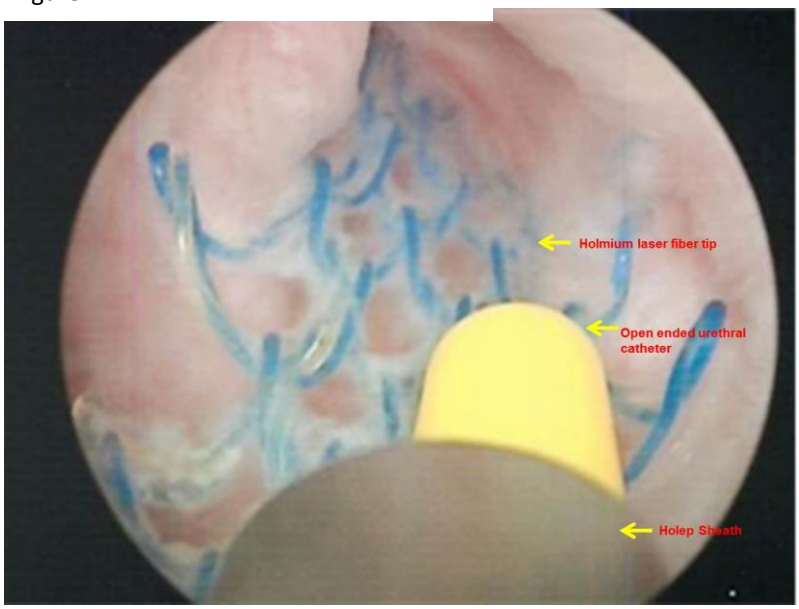


Figure 2



Results

From 12/2011 to 12/2013, ten women were treated with TEH on an outpatient basis. UE was large, occupying over one quarter of the urethral lumen on all cases. Mean TEH treatment lasted 42 minutes (15-80 min). Complete removal of erosion was achieved in 8/10 cases. Five cases required 1 treatment, 2 needed one retreatment, and one had 3 TEH procedures. In the 2 cases with incomplete resolution, over 90% debulking of the eroded material was accomplished. No retention, urethra-vaginal fistula or stricture complications were observed. Tapes were TVT (3), TOT (3), miniarc (4). Three women underwent secondary removal of the residual tape remnants outside of the lumen transvaginally, two for residual dyspareunia and one for persistent incontinence.

Interpretation of results

The traditional approach to urethral erosion consists of vaginal repair with removal of the eroded synthetic tape, followed by urethral reconstruction and possible interposition with autologous fascia and/or Martius graft to help with continence and prevent from a secondary urethro-vaginal fistula. This TEH approach requires a holmium laser but is purely endoscopic, involves debulking a large UE to minimize the damage to the urethral wall, has minimal morbidity, and offers a rapid recovery. A secondary procedure

can be considered when a few areas of synthetic tape exposure remain exposed. Should open surgery ultimately be needed, the extent of urethral wall defect will be reduced and so will the complexity of the repair.

Concluding message

TEH is a safe, minimally-invasive, procedure that is easy to perform and can be used as a “debulking” method in cases of large UE that would otherwise require a complex open reconstruction.

Disclosures

Funding: none **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** IRB Institutional Review Board **Helsinki:** Yes **Informed Consent:** Yes