

Trans-pubic Urethroplasty - Combined Abdominal and Perineal Approach for Complex Recurrent Posterior Urethral Stricture

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The use of transpubic approach for urethroplasty, initially described by Pierce in 1962, for complex urethral strictures has faded over the past few decades. With most surgeons opting for the partial perineal pubectomy, the only indications for transpubic urethroplasty are long segment strictures following pelvic fracture with urethral injury (PFUI) and paraurethral bladder base fistulae. Herein, we present an interesting case where a combined abdomino-perineal approach has been used for a patient with long segment stricture post open prostatectomy.

A 65-year-old male presented with recurrent lower urinary tract symptoms post open supra-pubic prostatectomy to the Urology department of King Edward Memorial Hospital, Mumbai. Multiple unsuccessful attempts at endoscopic dilatation and VIU (Visual Internal Urethrotomy) were done over a period of two years.

Investigations revealed a 2.5 - 3 cm stricture involving the membrano-prostatic urethra (**Figure 1**). An elective suprapubic cystostomy was done for the patient prior to surgery. A combined abdomino-perineal approach transpubic urethroplasty was performed in view of a long segment stricture in the posterior urethra in order to achieve tension free anastomosis. It also provided for an excellent and wide exposure for creating a bulbo-prostatic urethral anastomosis under vision. A layer of omentum was wrapped around the anastomosis to avoid callus formation near the anastomosis. **Figures 2-13** illustrate the sequential steps of this procedure in our patient. Six weeks post surgery, patient's per urethral catheter was removed and patient was able to void with a good flow rate (**Figure 14**). Patient had an uneventful and complete recovery.

The keys to a successful repair in these patients are adequate exposure of the pelvic anatomy, maintenance of vascularity, creation of new bladder base opening for urethral anastomosis and creation of a tension free watertight anastomosis. Careful planning and meticulous operative techniques using transpubic approach provide for an excellent, wide exposure for creating a tension free bulbo-prostatic urethral anastomosis under vision, with minimal risk of pelvic instability.

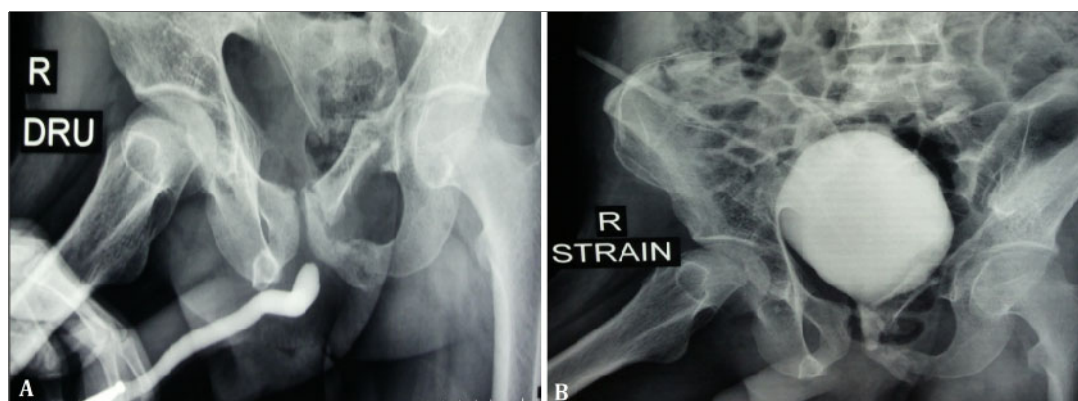


Figure 1. Pre-operative dynamic retrograde urethrogram (A) and micturating cysto-urethrogram (B) suggestive of a membrano-prostatic urethral obstruction.

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Figure 2. Midline perineal incision.

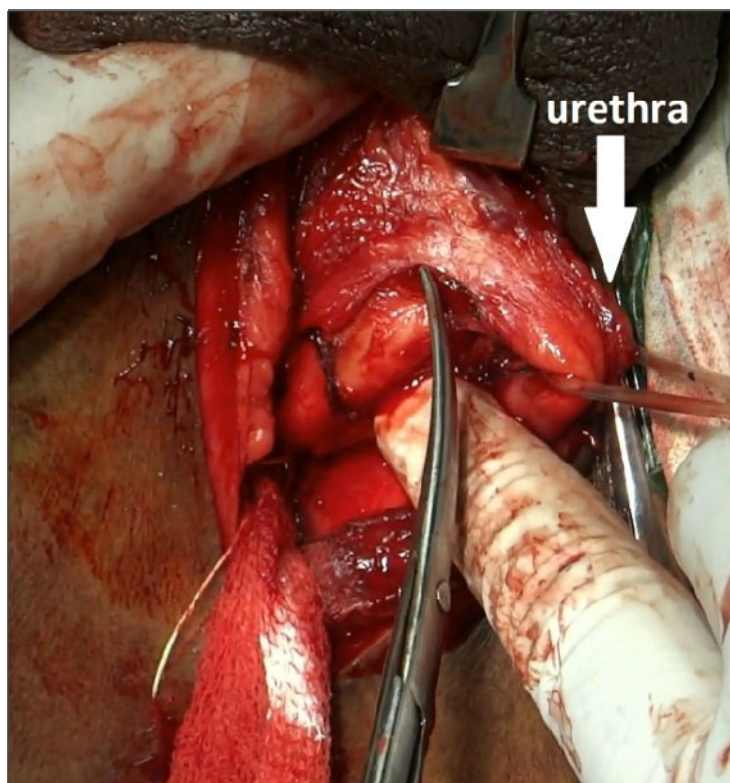


Figure 3. Mobilization of bulbar urethra via perineal incision.

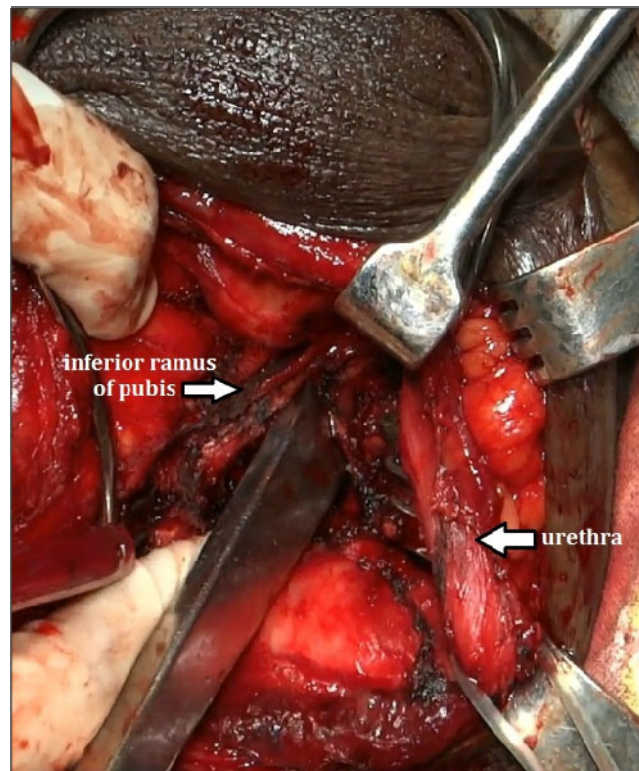


Figure 4. Inferior pubectomy done via perineal incision.

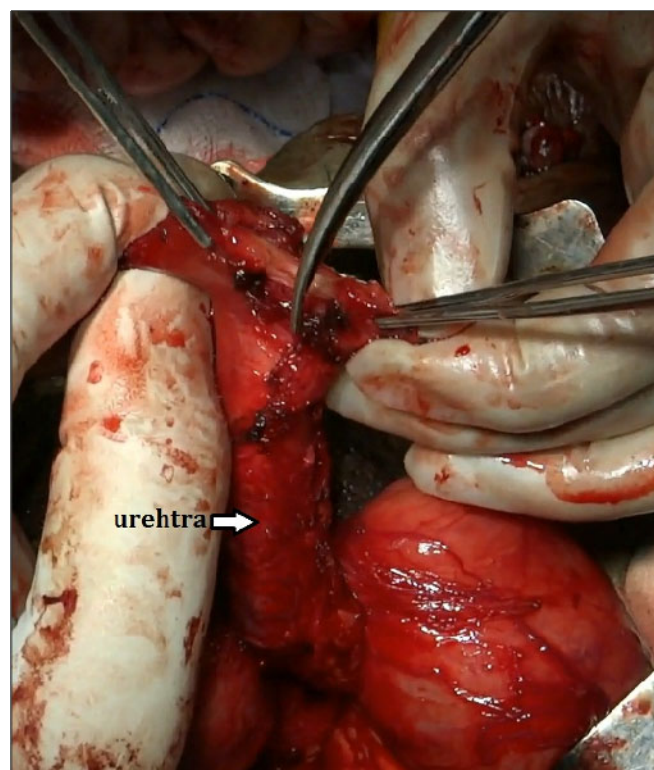


Figure 5. Urethral spatulation.



Figure 6. Vertical Midline abdominal incision.

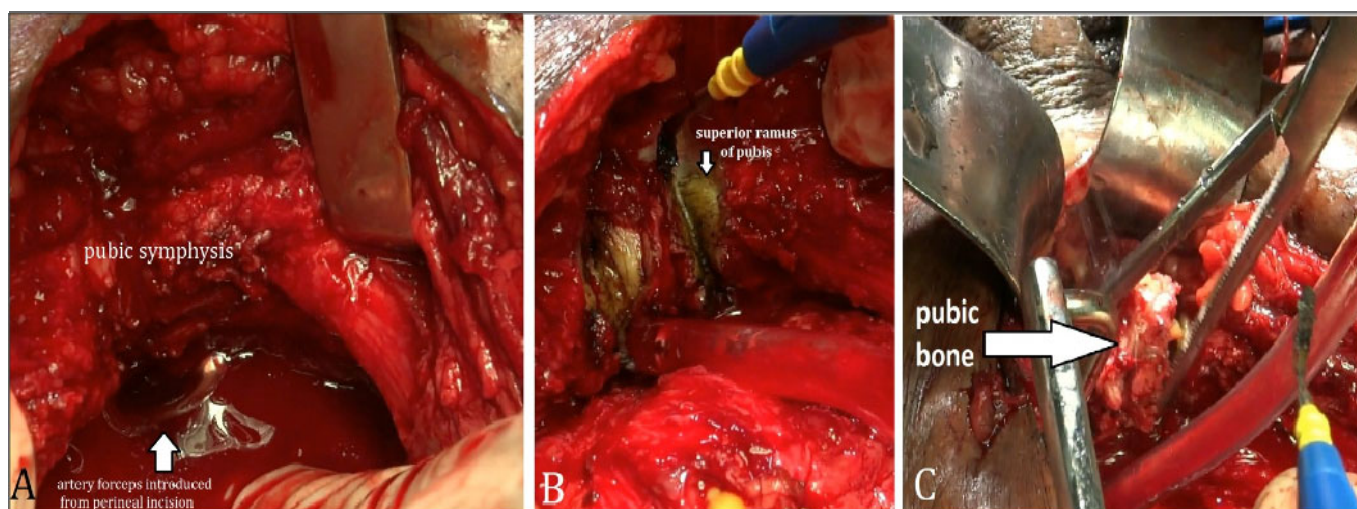


Figure 7. Superior pubectomy (A & B) and symphysis pubis excision (C) done via abdominal incision.

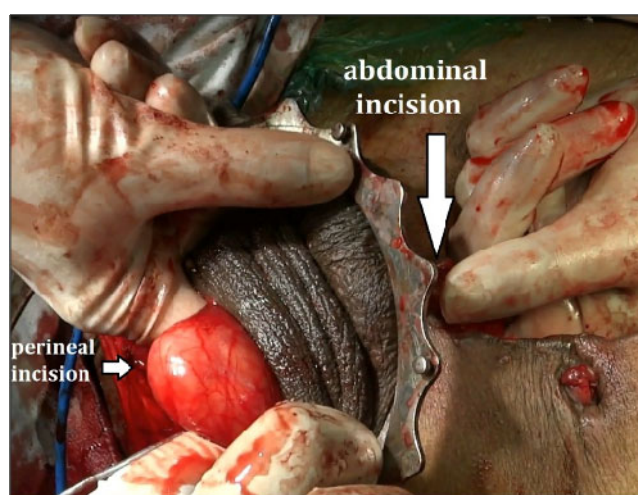


Figure 8. Combined approach (approximation of abdominal and perineal dissection for creating a space).

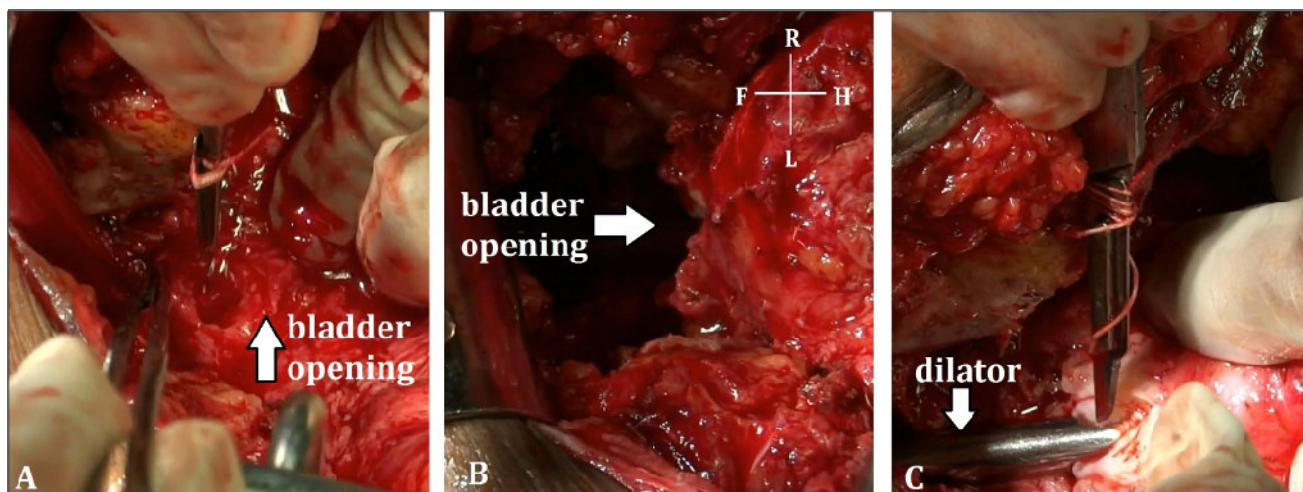


Figure 9. Creation of bladder opening (A & B) and spatulation of bladder neck over dilator (C).
[R – right side, L – left side, H – head end, F – foot end]

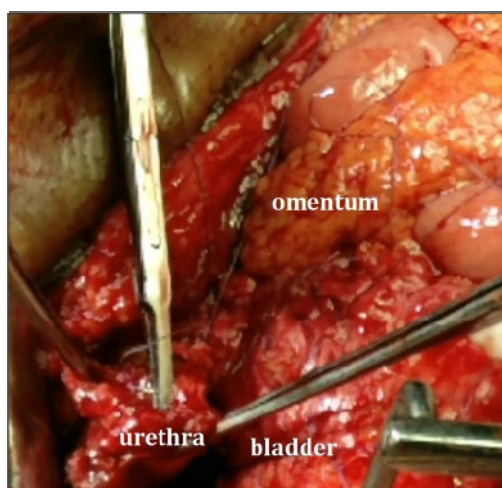


Figure 10. Anastomosis of posterior layer of urethra with posterior layer of bladder.

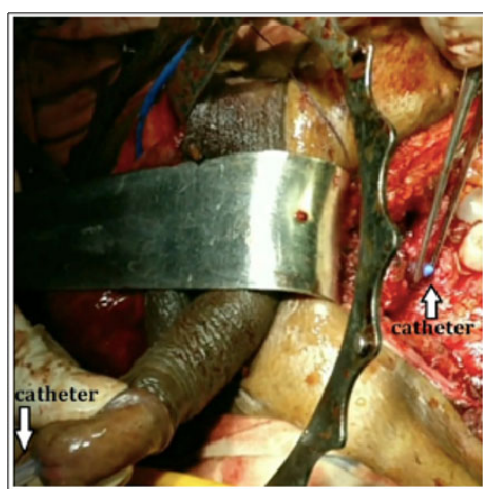


Figure 11. Insertion of Foley's catheter through the anastomosis.

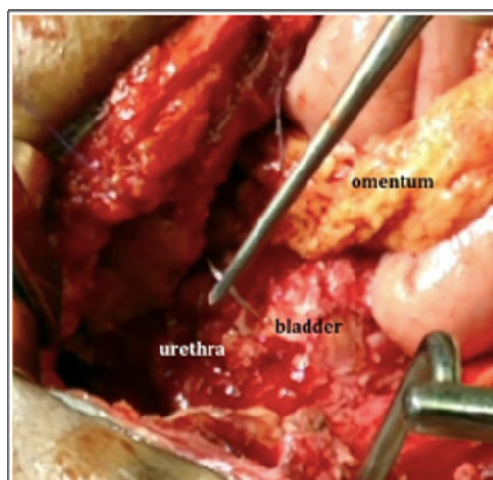


Figure 12. Anastomosis of anterior layer of urethra with anterior layer of bladder.

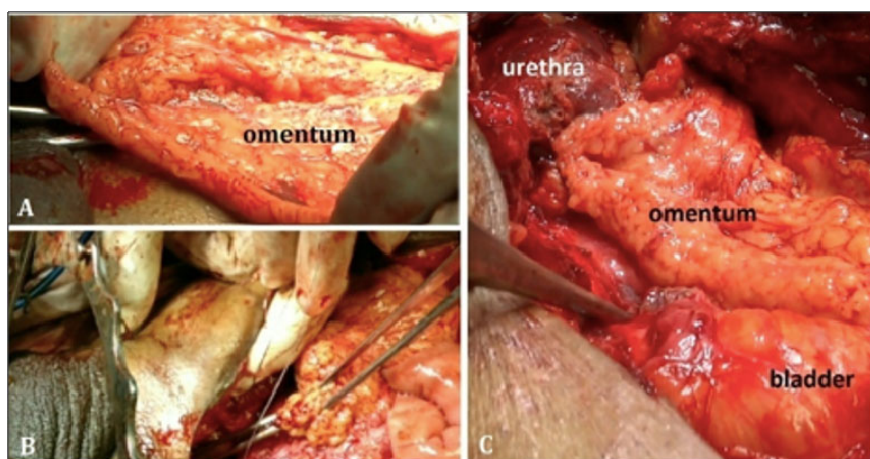


Figure 13. Omentoplasty (A: Vascular omental pedicled flap; B: Omental flap pulled near anastomosis; C: Layer of omentum wrapped around anastomosis to provide support and improve vascularity and lymphatic drainage).

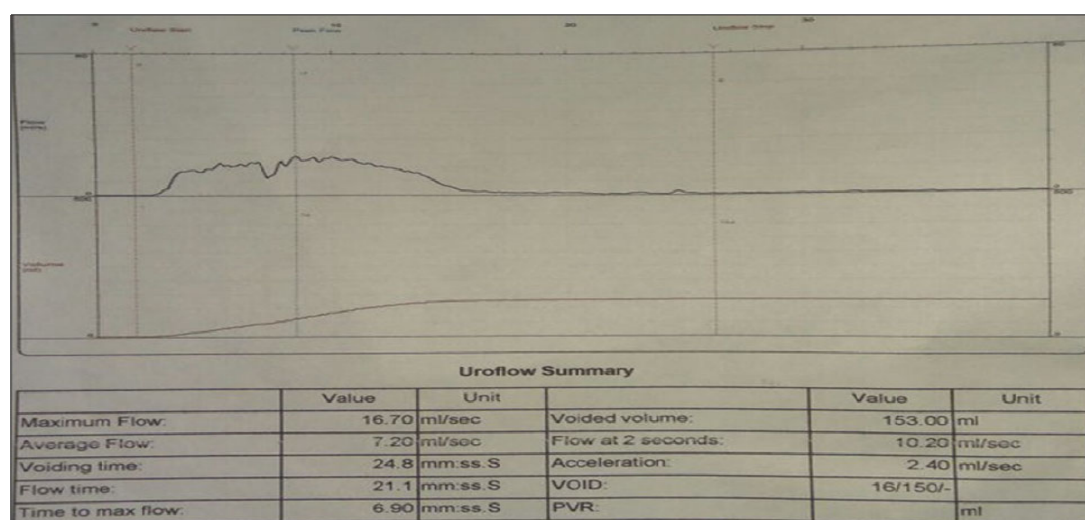


Figure 14. Post operative urinary flow rate record of the patient.