

Surgical repair of the iatrogenic false passage in the treatment of trauma-induced posterior urethral injuries

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PATIENT

A 37-year-old male patient with PFAUI had undergone a laparotomy procedure for pelvic bone fracture, complete urethral rupture, and bladder perforation at another healthcare facility in December 2004.

A cystostomy had been placed during bladder repair and he had lived with cystostomy for 6 months to allow spontaneous healing of the pelvic bone fracture and urethral realignment. Subsequently, urethral integrity had been reestablished endoscopically without performing a posterior urethroscopy procedure through the cystostomy tract, and a urethral catheter had been inserted.

The patient had not been able to urinate following removal of the urethral catheter, and therefore the catheter had been left in place for a long time. Within that time window the patient had undergone repeated endoscopic urethrotomies including use of YAG holmium laser for 60 times and transurethral resection of prostate for 2 times. Meanwhile, intermittent weekly urethral dilatations were performed.

He reported that, following operations, he had a low urinary flow rate, and incontinence and urgency even with small amounts of urine. He also reported less than ideal erections until 2008, and subsequent erectile dysfunction. He presented to *Sivas Numune Hospital Urology Clinic* in February 2012.

SURGICAL PROCEDURE

A cystostomy catheter was placed. After observing the site and distance of the posterior urethral stricture with *combined cystourethrography* (CCUG), a picture consistent with intra-prostatic false passage was detected (Figure 1).

False passage and desired passage were assessed by performing antegrade urethroscopy with flexible cystoscope through the cystostomy tract and simultaneous retrograde urethroscopy through the urethra under general anesthesia (Figure 2 and 3).

By advancing a guidewire through the flexible cystoscope, the *veru montanum* was localized and the part past the external sphincter was found to be totally closed

(Figure 4). At the same session, transperineal urethroplasty was initiated in the lithotomy position. Complete urethral mobilization until the site of stricture was performed via perineal incision for primary anastomosis urethroplasty.

During the operation a dense fibrous tissue and a granulation tissue were observed at the rupture site. Later stages of the urethroplasty procedure followed. Normal bulbous urethra was removed from the scar tissue at the false passage site and the false passage was closed by 4/0 absorbable sutures.

The scar tissue was resected with the help of the flexible cystoscopy until a 30-F benique bougie could make a self-passage through the scar tissue. The resection was continued until the closed proximal urethral tissue distal to *veru montanum* was found. Posterior urethra was dilated after performing partial pubectomy and osteotomy of the pubic arms that constricted posterior urethra from both sides.

Cavernous bodies were separated. Distal urethra was spatulated and anastomosed end-to-end with 4/0 absorbable sutures without tension. Urethra was catheterized with a 20-F catheter. A soft drain was placed and layers were anatomically closed.

The patient was discharged with wide-spectrum oral antibiotics 1 week after surgery.

FOLLOW-UP

The patient was followed up for 1 year. Urethral catheter was removed at postoperative week 3. By performing CCUG, the patent anastomosis and the false passage ending with a dead end between prostatic urethra and proximal urethra were observed (Figure 5).

Then, the suprapubic catheter was removed. The maximum preoperative urinary flow rate of 3.4 ml/sec increased to 24 ml/sec at 3 months after surgery. Incontinence or urgency was not seen and his erection was maintained.

Urethral false passage disappeared one year after surgery (Figure 6).



Figure 1.

Preoperative VCUG and RUG shows the location of a false passage and urethral stricture. The black arrow shows normal bladder neck and prostatic urethra, the blue arrow shows the urethral stricture and the beginning of the intraprostatic false passage, while the white arrow shows the false passage located close to bladder neck.



Figure 2.

Flexible cystoscopy performed via suprapubic route, shows the false passage close to the bladder neck in the upper tract and the lower wide tract shows prostatic urethra.



Figure 3.

A closer view of the false passage formed by a circular dense scar tissue.



Figure 4.

The distal part of veru montanum of the prostatic urethra is completely obliterated.



Figure 5.

Postoperative RUG shows an anastomosis without stricture between prostatic urethra and proximal distal urethra, and a false passage ending with a dead end.



Figure 6.

False passage disappeared one year after surgery.