VIDEOABSTRACT

VIDEOSURGERY

Video can be found at http://www.ceju.online/journal/2020/robotic-paediatric-urology-bladder-plication-bladder-neck-2138.php

Robotic bladder neck plication for incontinence treatment

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The robotic approach allows surgeons to easily perform reconstructive procedures in the pelvis. In this video, we describe a robotically-assisted bladder neck plication, performed in order to achieve continence in an adolescent girl.

A 12 year-old-girl was evaluated in our Centre for persistent total urinary incontinence.

The patient was initially treated elsewhere for a vaginal ectopic left megaureter with uretero-vesical reimplantation and subsequently with multiple bulking agent endoscopic injections.

Cysto-colposcopy revealed a short urethra and a patulous bladder neck. Ectopic ureteric stump was visible between urethral and vaginal opening. Micturating cystourethrogram (MCUG) and urodynamic evaluation showed a bladder with incontinence starting from 60 ml for the bladder neck opening and with a capacity of 200 ml without developing high voiding pressures; thus the bladder did not have any particular urodynamic alterations while the incontinence was due to incompetent bladder neck. The therapeutic approach was to plan a bladder outlet procedure to achieve urinary continence. Our choice of treatment was a laparoscopic robotic-assisted bladder neck plication, already described for incontinence both in epispadias repair and after robotic prostatectomy. After DaVinci robot docking, the procedure started with a combined endoscopic and laparoscopic identification of the bladder neck. After isolation of the bladder neck, without bladder opening, a progressive plication of the proximal urethra with interrupted braided polyester (polyethylene terephthalate) 2/0 stitches was carried on with endoscopic direct control of the lumen calibre reduction. The urethral plication is obtained with 3–4 single stitches to funnel the urethra for a length of at least 3 cm. A percutaneous cystoscopy and a transurethral catheter were positioned to assure optimal drainage.

The overall surgical time was 220 minutes (docking + console time).

The patient was discharged on the 4th post-operative day without complications. After 2 months, a MCUG confirmed spontaneous voiding (bladder volume 300 ml) without post-void residuals and renal ultrasound (US) showed normal upper urinary tracts. After 8 months, the patient remains completely continent.

Bladder neck plication has been described as a successful complementary technique in other procedures such as robotic radical prostatectomy. Open bladder neck plication, combined with endoscopic overview of the urethral lumen, has been used to reach continence in epispadiac females too. The anatomical access to the bladder neck region is extremely difficult in open surgery especially in adolescent patients.

Robotic access offers an excellent alternative with optimal anatomical exposure and control of the area. Bladder neck plication, compared to full reconstruction ('keel' bladder neck), is a less invasive procedure and it is ideal to obtain adequate voiding continence in selected patients.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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