

ADJUSTABLE TRANSOBTURATOR MALE SYSTEM (ATOMS) FOR MALE POST-PROSTATECTOMY STRESS URINARY INCONTINENCE: INITIAL MULTI-CENTRE EXPERIENCE IN HONG KONG

Hypothesis / aims of study

To report on our initial experience in terms of the short term outcome, safety and efficacy of Adjustable Trans-Obturator Male System (ATOMS) for post-prostatectomy stress urinary incontinence.

Study design, materials and methods

All cases of ATOMS for post-prostatectomy stress urinary incontinence done in Hong Kong up to Mar 2012 were included in this retrospective study. Totally 8 male patients mean aged 75 years (range 71 – 78) underwent ATOMS from Mar 2010 - Nov 2011 in four centres. The ATOMS consists of a cushion for supporting the bulbar urethra which is then connected to a port placed subcutaneously in the supra-inguinal area for future pressure adjustment of the cushion⁽¹⁾. The incontinence symptoms were assessed before and after surgery.

Results

All 8 patients had prostatectomy performed 1-6 years prior to the ATOMS implantation: laparoscopic radical prostatectomy (4), robot assisted radical prostatectomy (2), laparoscopic converted to open simple prostatectomy (1) and open retropubic radical prostatectomy (1). All had stress urinary incontinence which persisted despite pelvic floor rehabilitation and was confirmed by video urodynamic study. The mean number of pads used was 4 (range 3 – 6). Flexible cystoscopy was done in 5 patients before ATOMS implantation and none had anastomotic stricture. The mean operative time was 78 minutes (range 60 – 100). There was no bladder injury intra-operatively. Three patients had incontinence completely cured without any adjustment required and were all diaper free. Five patients had persistent leakage with adjustment of cuff performed at mean 7 months after ATOMS implantation (range 1 – 17). Average 2.8 ml more saline was injected to the system (range 2 – 5). Within the ATOMS adjustment cases, one patient with prior cystoscopic demonstration of large bladder diverticulum developed retention of urine and required clean intermittent self-catheterization three times per day in addition to spontaneous voluntary voiding. He was still diaper dependant and so adjustment of cuff was performed. Two patients had unsatisfactory urinary control after first adjustment of ATOMS requiring second adjustment. 5.5 ml more saline at 2 months after first adjustment for the first case and 4 ml more at 4 months for the second case. Leakage improved in both cases after second adjustment. Mean follow-up duration is 12 months. There was absence of sling erosion in these patients.

Interpretation of results

The artificial urinary sphincter (AUS) has been considered the gold standard treatment for moderate to severe post-prostatectomy urinary incontinence. The main advantage of ATOMS over AUS is that no device manipulation is required for each voiding. When comparing to other nonadjustable male slings, which had success rate from 40 – 80%, our experience showed ATOMS has the advantage of being adjustable and the success rate is around 75%. Our sling erosion rate is 0%. This showed the advantage of ATOMS, when comparing the sling erosion rate with other devices, AUS 12%, balloons 8%, non-adjustable slings 15.8%. The proposed reasons are lack of circumferential compression on urethra and the more distal positioning of the cushion on the bulbospongiosus muscle.

Concluding message

Our early experience demonstrated that ATOMS is efficacious in the treatment of male SUI and had the advantage of being adjustable anytime after operation. Moreover, unlike the artificial urinary sphincter, it spares the patients the stress of having to manipulate the device for micturition. However, longer follow-up and larger case series is required to ascertain its long term efficacy.

References

1. Pelviperineology 2011; 30: 10-16

Disclosures

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