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Pioner G[1], Averbeck M A[2], Fornari A[1], Abboud Filho N[3], Beltrão L[3]
1. *Moinhos de Vento Hospital & Santa Casa Hospital Complex,* ***2.*** *Moinhos de Vento Hospital, Presidente Vargas Hospital & Santa Casa Hospital Complex,* ***3.*** *Federal University of Health Sciences of Porto Alegre*

OUTCOMES AND COMPLICATIONS OF SURGICAL TREATMENT FOR MALE URINARY INCONTINENCE IN SOUTHERN BRAZIL

Hypothesis / aims of study
Post-prostatectomy urinary incontinence (PPI) is a potential complication of prostate surgery and although more frequent after radical prostatectomy, it can also occur after endoscopic or open surgery for benign prostate hyperplasia (BPH). Refractory post-prostatectomy urinary incontinence is associated with impairment to the quality of life (QoL), social isolation and depression. Surgical treatment comprises implantation of compressive devices, such slings and the artificial urinary sphincter (AUS). These devices can benefit those patients, but complications are not uncommon events. We herein report outcomes and complications of surgical treatment for male urinary incontinence in Southern Brazil.

Study design, materials and methods
This is a retrospective study. Charts of 23 consecutive patients were reviewed to collect demographic and clinical data. Telephone contact was also used to confirm whether the patients still used pads or reported leaks. Incontinence was defined in the patients as mild (using 1 to 2 pads per day), moderate (3 to 5 pads per day) and severe (more than 5 pads per day). Student's t-test was used to statistically compare continuous variables and chi-square test to compare categorical variables. Statistical Packet for Social Sciences version 13.0 for Windows (SPSS Inc., Chicago, IL, USA) was used for statistical analysis. All differences with a p value less than 0.05 were considered statistically significant.

Results
From July 2007 to January 2014, 23 patients underwent surgical treatment for refractory post-prostatectomy urinary incontinence. Six of those patients have lost follow-up and were not available for a telephone interview. Data of 17 patients were reviewed and these patients were contacted (telephone interview) to check up urinary continence. Three out of 17 patients have been referred to our tertiary hospital due to complications related to male sling implantation. Mean follow-up was 31.82±26.18 months. Mean age was 68.64±6.92 years (60 to 81 years) and mean body mass index (BMI) was 28.28±3.6 kg/m2 (24.09 to 36.11). The most common comorbidity was hypertension (6 out of 17 patients). Sixteen out of 17 patients had diagnosis of prostate cancer and underwent radical prostatectomy (table 1). Two of these patients also needed adjuvant radiotherapy. Mean time from prostatectomy to surgical treatment of urinary incontinence was 45.6 months (12 to 144 months). Twelve patients underwent implantation of AUS (AMS 800, American Medical Systems, Minnetonka, MN, USA) and 5 patients underwent adjustable bulbourethral sling implantation (Argus, Promedon SA, Cordoba, Argentina). Nine patients (52.9%) had severe urinary incontinence and 8 patients (47.1%) had moderate urinary incontinence. Mean number of leaks/day before surgery was 11.37±4.24 (6 to 20). Mean number of leaks/day after surgery was 1.25±1.35 (0 to 4; $p < .0001$). Mean number of pad usage/day before surgery was 5.23±2.8 (3 to 10 pads). Mean number of pad usage/day after surgery was 0.4±0.63 (0 to 2 pads; $p < .0001$). Main complications included skin erosion (2 cases), urethral erosion (3 cases), perineal fistulae (2 cases), device failure (1 case) and infection (1 case). Removal rate was 41,1% (80% after sling implantation and 25% after AUS implantation; $p = 0.033$). Mean time to device removal was 12,14±15,62 months (1 to 43 months).

Table 1. Clinical Data

Patient	Age (years)	Baseline diagnosis	Baseline surgery	Surgery for IU****	Adjuvant Radiotherapy	Surgical removal & Complications
SOH	67	Prostate Cancer	Radical Prostatectomy	Argus	No	None
ALAM	60	Prostate Cancer	Radical Prostatectomy	AMS 800	No	None
ECL	68	Prostate Cancer	Radical Prostatectomy	AMS 800	No	None
CPC	81	Prostate Cancer	Radical Prostatectomy	AMS 800	No	Yes (perineal cutaneous erosion)
MCJP	62	BPH***	TURP** converted to open prostatectomy	AMS 800	No	None
JPN	77	Prostate Cancer	Radical Prostatectomy	AMS 800	No	None
ZMC	61	Prostate Cancer	Radical Prostatectomy	Argus	No	Yes (perineal fistulae)
JSL	67	Prostate Cancer	Radical Prostatectomy	Argus	No	Yes (perineal fistulae)
EGM	63	BPH	TURP	AMS 800	No	None
NFAR	69	Prostate Cancer	Radical Prostatectomy	AMS 800	No	None
ACN	78	Prostate Cancer	Radical Prostatectomy	AMS 800	No	Yes (cuff erosion)

JCA	73	Prostate Cancer	Radical Prostatectomy	AMS 800	Yes	None
HCR	72	Prostate Cancer	Radical Prostatectomy	AMS 800	No	Yes (urethral erosion and infection)
OC	62	Prostate Cancer	Radical Prostatectomy	AMS 800	Yes	None
AN	61	Prostate Cancer	Radical Prostatectomy	AMS 800	No	None
RL	79	Prostate Cancer	Radical Prostatectomy	Argus	No	Yes (urethral erosion and infection)
MLS	67	Prostate Cancer	Radical Prostatectomy	Argus	No	Yes (urethral erosion)

* BMI = Body Mass Index ** TURP = Transurethral resection of the prostate
*** BPH = Benign Prostatic Hyperplasia **** IU = Urinary incontinence

Interpretation of results

Since its introduction in 1973, artificial urinary sphincter (AUS) is considered the gold standard for treatment of moderate and severe UI. Its durability is well established, with 72 % of the devices after 5 years with proper functioning (1). The use of slings is an alternative to the artificial sphincter, especially in patients with mild to moderate urinary incontinence, or in patients without cognitive or physical capacity for the management of the artificial sphincter (pump) (2).

This case series showed that there was a long time between prostatectomy and surgical treatment of urinary incontinence (mean = 45,6 months; 12 to 144 months). It reflects the difficulties faced by Brazilian patients to have access to such devices (slings, AUS), due to their high cost and to the lack of coverage by health insurances before 2014. Only recently (as of January 2014) the AUS and the male sling were included in the obligatory procedures list from the National Agency of Health in Brazil (ANS).

Concluding message

Surgical treatment of urinary incontinence was effective, but not free of complications. According to this case series, adjustable bulbourethral sling implantation was associated with high risk of erosion and need for surgical removal. As expected with any prosthetic device, complications including mechanical failure, infection, erosion and recurrent incontinence remain significant concerns. Patients must be comprehensively informed about such adverse events.

References

1. Artificial urinary sphincter AMS 800 for urinary incontinence after radical prostatectomy: the French experience. Urol Int. 1998;60 Suppl 2:25-9; discussion 35.
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