Long-term outcome after implantation of the ATOMS continence device: 7 year multi-center data

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Introduction

Male stress urinary incontinence (SUI) is one of the major complications after prostate treatment (radical prostatectomy [RPE], transurethral resection of the prostate [TURP], radiotherapy [RT]) and incontinence surgery should be recommended to patients after failed conservative therapy options. Beside the use of the artificial urinary sphincter (AUS) the last few years have been marked by the rapid development of several continence systems, of varying designs and usually implanted via a minimally-invasive approach.

The Adjustable Transobturator Male System (ATOMS), one of these novel devices, is now in its 3rd generation with a pre-attached fully silicon covered port system (SSP) and showed promising outcomes of the precursor generations (inguinal port [IP], simple scrotal port [SP]).

After mean follow-up at 32.5 months (range 0.1-75.0) and after a mean of 3.0 adjustments daily pad test, pad use , quality of life parameters and urodynamic measurements changed significantly. Pain was not an issue but relative percentage of SUI grade varied significantly from baseline and follow-up. In all generations OSR and DR was 91.6% and 67.1% respectively. Mean OT was 46.1 minutes and average number of catheterization/admission days was 1.2/3.5 days.

Results

Male stress urinary incontinence (SUI) is one of the major complications after prostate treatment (radical prostatectomy [RPE], transurethral resection of the prostate [TURP], radiotherapy [RT]) and incontinence surgery should be recommended to patients after failed conservative therapy options. Beside the use of the artificial urinary sphincter (AUS) the last few years have been marked by the rapid development of several continence systems, of varying designs and usually implanted via a minimally-invasive approach.

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Similar to initial experiences1,2 and intermediate results3 the ATOMS device shows good effectiveness, high patient satisfaction and low complication rates in the presently largest multicenter cohort study. The 3rd generation with its pre-attached SSP is superior to the precursors in OT, continence outcome and device tolerability. In all generations, enhanced results are possible with PI and without RT in the patient history.

Patients and methods

• 287 males with mild (<1 pads/24h), moderate (2-5 pads/24h) and severe (>5 pads/24h) SUI
• 6 international continence centers (11/2009 - 3/2016)
• Continence parameters: Overall success rate (OSR), dry rate (DR; <10ml in daily pad test and 0-1 pad use)
• Quality of life ratings: ICIQ-SF, PGI-I
• Urodynamic measurements: Uroflowmetry (Omax), post void residual urine (PVR), bladder capacity (Vol)
• Surgery outcome parameters: Operation time (OT), days of catheterization and admission, device durability/failures, Clavien-Dindo scale.

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