

OUTCOMES OF ARTIFICIAL URINARY SPHINCTER PLACEMENT IN ELDERLY MEN

Hypothesis / aims of study

Definitive surgical treatment for post-prostatectomy stress urinary incontinence (SUI) remains the artificial urinary sphincter (AUS). Despite proven success, some physicians may be reluctant to offer AUS to older patients for fear of increased surgical/anesthetic complications, the need to deactivate the cuff due to worsening medical co-morbidities and the risk of iatrogenic cuff erosion after placement of urethral catheters by uninformed medical personnel. To our knowledge, the results of AUS implantation in elderly male patients have not specifically been reported. We evaluated the outcomes of primary AUS placement for the treatment of post-prostatectomy SUI in men age 75 or greater at the time of surgery.

Study design, materials and methods

From September 1987 through June 2005, medical records of 228 men that underwent AUS (AMS 800, American Medical Systems, Minnetonka, Minnesota) insertion for post-prostatectomy SUI were reviewed. Preoperatively, all patients underwent a complete history and physical examination, video urodynamic studies and cystoscopy. Daily pad usage was also recorded. Patients with significant detrusor overactivity, poor bladder compliance or evidence of recurrent bladder neck contracture were not offered AUS implantation. All men received a single cuff AUS with a 61-70 cm of water reservoir. At the time of surgery, 33 patients were age 75 or older. Through retrospective chart review and patient/family telephone interview we determined the outcomes of patients with regard to improvement in continence following AUS insertion as measured by daily pad usage, immediate and long-term complications and the need to deactivate the cuff for medical or social reasons.

Results

Four patients were lost to follow up and excluded from analysis. Of the remaining 29 men, mean age at the time of AUS implantation was 77.6 years (range 75-83). Average follow up was 5.0 years (range 1-11). Following radical prostatectomy but before AUS insertion, pelvic external beam radiotherapy was administered to 11/29 (38%) patients. Following AUS insertion mean daily pad usage improved from 6.7 (range 3-10) to 0.8 (range 0-2). Seven (24%) patients used no pads and 17 (59%) required one-half to one pad per day. Overall, 16/29 (55%) men reported no complications and needed no further intervention. AUS removal and revision occurred in 4 (14%) and 4 (14%) patients, respectively. Six (21%) men required deactivation of the implant due to poor overall health after an average of 47 months following placement. "Success" rate improved to 21/29 (72%) when cuff deactivation without revision or removal was not considered a complication.

Ten of 29 (34%) patients in the cohort were deceased at the time of chart review. With regard to the deceased patients, four (40%) died with a functioning AUS, albeit one required cuff downsizing secondary to urethral atrophy. Four (40%) men required deactivation secondary to deconditioning and poor overall health prior to death. The mean time of cuff deactivation before death was 7.5 weeks (range 2-16). Two (20%) patients underwent explantation due to infection.

Interpretation of results

With an average follow up of five years, overall continence after AUS insertion in this elderly cohort improved from 6.7 to 0.8 pads per day. Social continence, defined as the usage of one or fewer absorptive pads per day, was 83%. Our findings are comparable to those previously published for men of all ages receiving AUS. In our study, 16/29 patients (55%) reported no complications and required no intervention. Eight (28%) patients required either surgical revision or implant removal. AUS revisions (n=4) consisted of cuff downsizing in 2 men, pump repositioning in 1 and component replacement secondary to fluid leak in 1. Both patients requiring cuff downsizing received pelvic radiation following radical prostatectomy. AUS component removal (n=4) occurred due to cuff erosion in 3 patients and infection without erosion in 1. Catheter placement through an activated cuff was the etiology in two of the three patients with transurethral exposed urethral cuffs. Our overall reoperation rate of 28% in this elderly cohort appears to be comparable or better than other published AUS studies. Six of 29 (21%) patients underwent cuff deactivation due to diminishing functional status. While activated, daily continence in these patients improved from 7.0 to 0.9 pads per day. Four of the 6 men had the cuff deactivated an average of 7.5 weeks (range 2-16) before death. Two patients are currently living with a deactivated cuff. Mean duration of AUS utility in patients who required deactivation was 47 months (range 34-84). Therefore, despite the need to deactivate the cuff, each patient did receive significant quality of life benefits for an average of nearly four years. Our overall "success" rate improves to 72% (21/29) when AUS deactivation alone is not considered a complication.

Concluding message

Elderly men do well following AUS insertion for post-prostatectomy SUI. Continence improvement and complication rates are comparable to previously published studies of younger men. No significant detriment was observed in patients requiring cuff deactivation. The procedure should not be withheld solely based on the age of the patient.

FUNDING: NONE

DISCLOSURES: NONE

HUMAN SUBJECTS: This study was approved by the University of California Davis Institutional Review Board and followed the Declaration of Helsinki Informed consent was obtained from the patients.