Outcomes of Simultaneous Placement of an Inflatable Penile Prosthesis and a Male Urethral Sling through a Single Perineal Incision

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ABSTRACT

Introduction. Synchronous implantation of an inflatable penile prosthesis (IPP) and a bulbourethral sling single via a single perineal is a unique approach in managing erectile dysfunction and stress urinary incontinence.

Aim. This article describes our surgical approach and reviews the operative time, length of hospital stay (LOS), estimated blood loss (EBL), and cost of synchronous dual prosthetic implantation compared with the implants performed individually. Additionally, we review the short-term outcomes in patients with dual sling and penile prosthesis synchronous implants.

Methods. Fifty-eight patients with IPP, 53 slings, and eight simultaneous dual implantations between January 2000 and July 2008 were retrospectively reviewed. Operative times, EBL, length of stay, cost, and complications were compared in three groups (group 1, IPP; group 2, slings; group 3, dual implants). Additionally, we reviewed pre- and postoperative Sexual Health Inventory for Men (SHIM) scores and pad use in group 3.

Main Outcome Measures. Review of operative times, EBL, LOS, cost, and complications.

Results. Dual implantation had similar operative times compared with the total time for the individual procedures (98 ± 24 minutes for IPP; 86 ± 24 minutes for sling; 177 ± 17 minutes for dual implant, $P > 0.05$). EBL was reduced (57 ± 30 mL for IPP; 48 ± 59 mL for sling; 49 ± 5 mL for group 3). LOS was also reduced (1.2 ± 0.45 days for IPP, 0.7 ± 0.48 days for sling; and 1.1 ± 0.50 days for dual implant). Dual implantation was associated with approximately $9,000 in savings. With a mean follow-up of 13.6 months, group 3 reported SHIM increase from 1.3 ± 0.5 to 23.5 ± 0.6 and a decrease in pad use from three pads per day (range 2–6) down to a mean of one pad per day (range 0–2). One sling erosion and one sling infection occurred in group 2. One patient in group 3 had acute urinary retention resolved with 5 days of catheter drainage.

Conclusion. Dual penile prosthesis and bulbourethral sling implantation through a single perineal incision is safe, efficient, and cost-effective. **Gorbatiy V, Westney OL, Romero C, and Wang R. Outcomes of simultaneous placement of an inflatable penile prosthesis and a male urethral sling through a single perineal incision. J Sex Med 2010;7:832–838.**

Key Words. Erectile Dysfunction; Impotence; Urinary Incontinence; Prostheses; Sling; Implant; Dual Prosthetic Implantation

Introduction

Patients with severe erectile dysfunction (ED) and mild to moderate urinary incontinence may require implantation of an inflatable penile prosthesis (IPP) and a bulbourethral sling. Traditionally, the penile prosthesis has been implanted in a different approach and incision under a separate anesthetic than the bulbourethral sling. Rhee reported initial experience with concomitant implantation of both devices requiring two separate incisions—a 2-cm perineal raphe incision for the sling and a penoscrotal incision for IPP [1]. Our group has previously reported our experience with simultaneous sling and penile prosthesis implantation via a single perineal incision [2]. The goal of this study is to evaluate the time efficiency, length of hospital stay (LOS), estimated blood loss

(EBL), cost-effectiveness, and clinical outcomes of synchronous prosthetic treatment of male ED and urinary incontinence using a single perineal incision in the placement of an IPP and a bulbourethral sling. Additionally, we describe our unique surgical technique and clinical outcomes in the placement of dual prostheses.

Aims

This study describes our unique surgical approach and retrospectively evaluates the time efficiency, LOS, EBL, cost, and clinical outcomes of synchronous prosthetic treatment of ED and urinary incontinence using a single perineal incision in the placement of an IPP and a bulbourethral sling.

Methods

A retrospective review of the operative database of two staff surgeons at the University of Texas Health Science Center, Division of Urology between January 2000 and July 2008, a total of 58 patients (45 patients at the Memorial Hermann Hospital [MHH] and 13 patients at the M.D. Anderson Cancer Center [MDACC]) provided the complete information of their IPP implantation. Additionally, 53 patients (14 patients at the MHH and 39 patients at the MDACC) underwent bulbourethral sling implantation with detail records. A total of eight patients (six at MDACC and two at MHH) had the implantation of both devices simultaneously. All patients included in the study group had ED and/or stress urinary incontinence as a result of an open radical prostatectomy for the treatment of prostate cancer and have failed nonsurgical treatment. The average age of the dual implant patients was 64.8 years and included three Hispanics, two Caucasians, and three African Americans. Staff-supervised residents and fellows performed all treatment procedures (IPP and sling insertion). The procedures were primary operations for all patients; thus, all patients who previously had a penile prosthesis, an artificial urinary sphincter (AUS), or a bulbourethral sling implantation were excluded.

Of the 58 patients receiving solely the IPP, 18 patients were implanted with the AMS 700CX Inhibizone (American Medical Systems, Minnetonka, MN, USA), 29 patients with the Titan Bioflex prostheses (Coloplast Corp. [Mentor], Minneapolis, MN, USA), and 11 patients with the Ambicor implants (American Medical Systems). The IPP was placed through a penoscrotal incision. Among the group of patients with sling implantation, 37 patients had the InVance male bone-anchored sling (American Medical Systems) placed and 16 patients had the AdVance male sling (American Medical Systems). Three of our eight patients with dual implantation received the InVance bone-anchored slings, while the other five patients had the AdVance male sling. Three patients in the dual implant group had the AMS 700CX penile prosthesis, while five patients were implanted with the AMS 700LGX. The choice of IPP types was made between surgeon and patients. InVance bone-anchored slings were used until the time the AdVance slings became available. The Coloplast sling was not available at the time of study. All procedures were performed according to previously published operative protocols [1,2]. A single perineal incision was utilized for the dual implantation operation.

We performed a retrospective comparison of operative times, EBL, LOS, cost, and complications in three groups (Group 1, IPP; Group 2, bulbourethral sling; Group 3, dual implantation of IPP/sling). The operative time was obtained from the anesthesia and nursing records, with start time at Foley catheter placement and end time at the application of bandages to the wound. The EBL, LOS, and complications were extracted from the patient records that were all documented from the day of surgery through most recent postoperative follow-up. The cost of procedures was obtained from the hospital billing records and included the total charges of the hospital, anesthesia, and the surgeons.

Additionally, we retrospectively reviewed the pre- and postoperative Sexual Health Inventory for Men (SHIM) scores as well as pre- and postoperative pad use in the series of eight patients with dual implants.

All data were analyzed on spreadsheet software and statistical significance of the means between the three groups, specifically between groups 1 and 2 vs. group 3 outcomes, was assessed with the one-tailed independent sample *t*-test.

Surgical Technique of Dual Prostheses Implantation

Broad-spectrum intravenous antibiotics consisting of vancomycin and gentamicin are administered 1 hour before the procedure. Once under general anesthesia, the patient is placed in the exaggerated lithotomy position. Patient's pelvis and genitals are shaved with clippers then scrubbed for 10 minutes