ORIGINAL RESEARCH—SURGERY

Prospective Evaluation of Postoperative Penile Rehabilitation: Penile Length/Girth Maintenance 1 Year Following Coloplast Titan Inflatable Penile Prosthesis

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ABSTRACT

Introduction. The most prevalent long-term complaint after successful inflatable penile prosthesis (IPP) surgery is reduction of penile length. The purpose of this study was to evaluate penile measurements in patients whose implantation experience included the aggressive new length measurement technique (NLMT) coupled with postoperative IPP rehabilitation (daily inflation) of the implant for 1 year. Moreover, we aimed to document objective data concerning dimensional changes of the phallus over time. Postoperative IPP rehabilitation has been discussed and presented at meetings, but no multi-institutional prospective data have been published.

Aim. Our goal was to assess results using the Coloplast Titan IPP, with NLMT, and postoperative rehabilitation.

Methods. After IRB approval, we conducted a prospective, three-center study of 40 patients who underwent IPP placement, with NLMT for end organ failure erectile dysfunction with the Coloplast Titan IPP. The patient was instructed to inflate daily for 6 months and then inflate maximally for 1–2 hours daily for 6–12 months. Fifteen penile measurements were taken before and immediately after surgery and at follow-up visits.

Main Outcome Measure. Penile length measurements after implantation compared with 12 months postimplantation.

Results. Penile measurement changes were statistically significantly improved at 12 months as compared with immediately postoperative and at 6 months. A total of 64.5% of subjects were satisfied with their length at 1 year, and 74.2% had perceived penile length that was longer (29%) or the same (45.2%) as prior to the surgery; 61.3% and 16.1% of subjects had increased and unchanged satisfaction, respectively, with penile length as compared with prior to IPP surgery. All but two subjects (93.4%) were satisfied with the overall function and dimensions of their IPP.

Conclusion. This study suggests using the Coloplast Titan IPP with aggressive cylinder sizing, and a postoperative penile rehabilitation inflation protocol may help optimize patient satisfaction and erectile penile measurements.

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Key Words. Penis; Penile Implants; Erectile Dysfunction; Patient Satisfaction; Sexual Dysfunction

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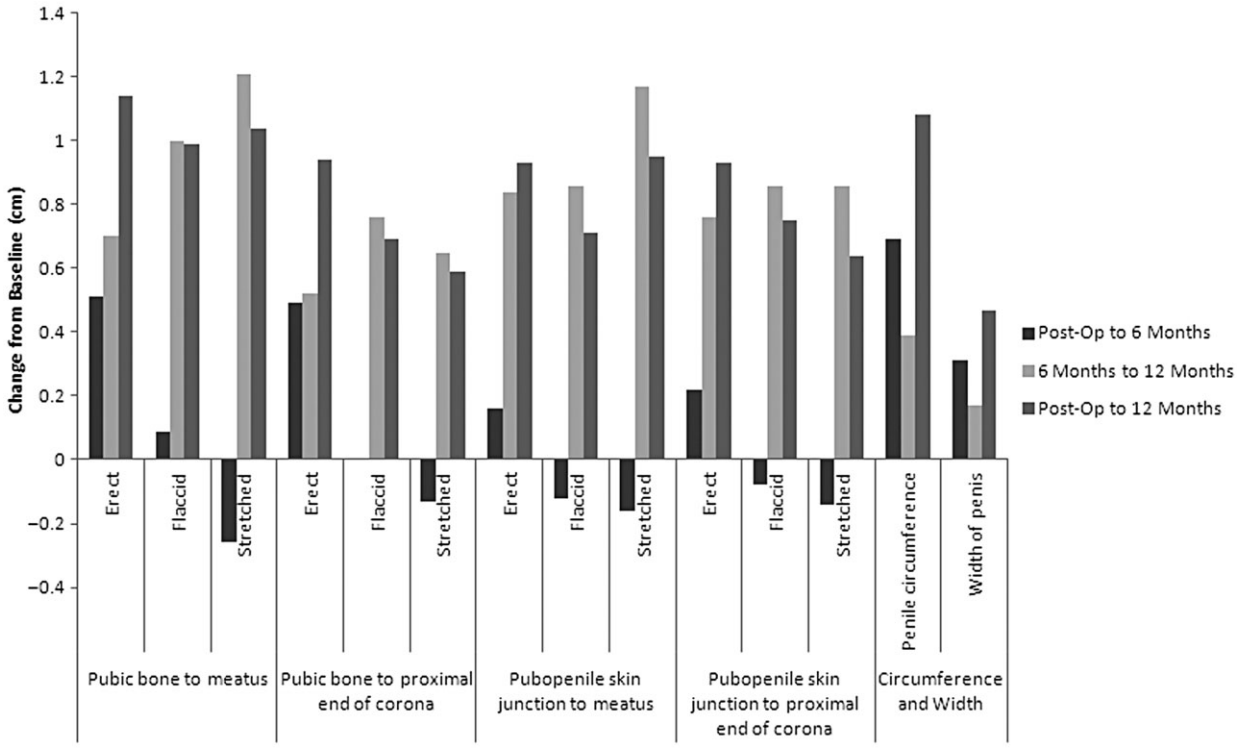

Figure 1 Changes in penile measurements

Introduction

The inflatable penile prosthesis (IPP) became available in the early 1970s [1,2]. Over the years, the IPP has become more dependable mechanically with superior flaccidity and rigidity [3–5]. Very high patient satisfaction rates with IPP have been reported worldwide [5–7]. Despite the fact that after surgery, most patients admit they would have the procedure again, the complaint of penile shortening after implantation is common and can be very disturbing to the patient [5,8]. Indeed, one publication called the number one complaint after prosthesis implantation "the inability to duplicate the full length of natural erections." [9] Deveci et al. published that 72% of patients thought their penis was shorter after implantation [10]. Wang et al. found a statistically significant decrease of penile length following IPP when compared with erection with intracavernosal injection at 12 months [11]. None of the published papers in the literature include more than a few postoperative penile measurements.

Because IPP surgery is an elective surgery, where patient satisfaction is of utmost importance, the prevalent complaint of reduced length should be addressed. We proposed that using the new length measurement technique (NLMT) with Titan cylinders with minimized rear tip extenders (RTEs) and daily, prolonged cycling of the implant for 1 year postsurgery would maintain the patient's immediate postoperative length and girth and minimize postoperative loss of length. We introduced a programmed post-IPP rehabilitation concept with prolonged cycling of the implant after implantation. We also investigated whether the above protocol coupled with the girth expansion of the Bioflex® cylinders (Coloplast, Minneapolis, MN, USA) and proven axial rigidity strength could cause tissue expansion and possibly maintain postoperative length and girth, as compared with measurements taken immediately after implantation [12].

Aim

We attempt to publish for the first time comprehensive measurements evaluating a postoperative IPP rehabilitation technique after IPP surgery using a more aggressive penile length measurement technique (NLMT) to determine appropriate sizing. To the authors' knowledge, this is the first prospective, IRB-approved, multicenter study