SEXUAL MEDICINE CASE REPORT

Penile Wobble Effect: Proximal Corporal Deformities as a Cause of Penile Prosthesis Failure

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ABSTRACT

Introduction: Penile structural defects can contribute toward penile prosthesis (PP) surgical complications and suboptimal outcomes. Despite modern improvements in techniques of inflatable PP (IPP) surgeries, suboptimal outcomes arise secondary to unrecognized proximal corporal abnormalities.

Aim: To describe a new observation of IPP failure (wobbly penis) secondary to proximal corporal deformities.

Methods: We performed a retrospective analysis of the Johns Hopkins institutional database of patients who had IPP surgery from May 2006 to March 2017. All cases requiring surgical revisions secondary to proximal corporal deformities were identified. Exclusion criteria included patients who had incidentally discovered proximal corporal deformities intraoperatively or were documented preoperatively to have had a corporal defect.

Main Outcome Measures: Successful reimplantation of a functionally intact PP device.

Results: On clinical grounds, we identified 5 patients with properly cycling but unstable prosthetic devices that were associated with proximal corporal dilatation (proximally from the penoscrotal junction). All patients underwent reduction corporoplasty with prosthesis replacements consisting of controlled expansion IPPs. 3 patients had undergone previous device replacements because of intact cycling but unstable and unusable IPP devices, whereas 2 had a single previous device insertion. Mean age at revision was 67 years. Median IPP duration was 17 years. Median number of previous IPP surgeries was 3. All patients reported IPP stability and satisfaction after revision (median follow-up = 6 months).

Conclusions: Proximal corporal deformities could account for IPP failure. This condition can be under-recognized as observed in the present cases of multiple revisions with a normally cycling device that was not usable. Proper recognition of this problem allows the opportunity for surgical correction with reduction corporoplasty. **Rajih E, Burnett AL. Penile Wobble Effect: Proximal Corporal Deformities as a Cause of Penile Prosthesis Failure. Sex Med 2018;X:XXX–XXX.**

Key Words: Tunica Albuginea; Corpora Cavernosa; Erectile Dysfunction; Corporoplasty

INTRODUCTION

Penile prosthesis (PP) surgery is the standard modality for management of erectile dysfunction (ED) that is refractory to conservative treatment measures. During the past 40 years, increasingly effective penile implants have been developed particularly because of improvements in manufacturing properties of the inflatable PP (IPP).[1] Modern IPP devices serve to restore satisfactory erection and rigidity.[2] Penile structural defects such as fibrous plaques, distortions, and tunical erosions or ruptures can contribute toward IPP failure or suboptimal outcomes.[3] Previous studies have addressed the physical aspects of the tunica albuginea of the corpus cavernosum that correlate with various deformities.[4–6] An intact anatomic penile structure is required for IPP durability and survival.[7]

Our literature review yielded no report that describes the observation of an isolated proximal corporal deformity in patients who have had previous longstanding intact IPP devices. In the present report, we present a phenomenon of unstable function of an intact IPP device (wobbly penis) secondary to exclusively proximal corporal dilatation and describe definitive surgical management of this problem.

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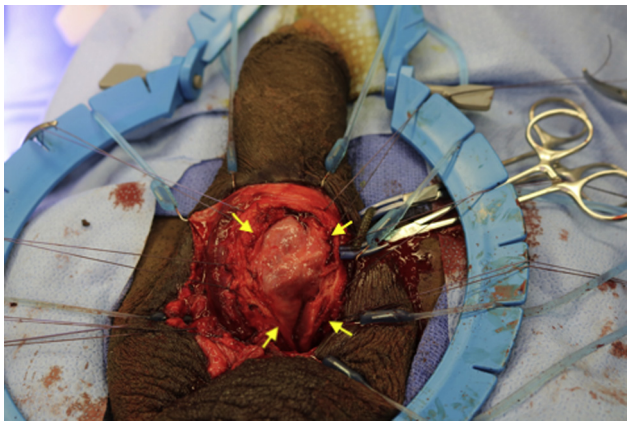

Figure 1. Photograph of intraoperative dissection shows left proximal corporal dilatation (arrows) before reduction corporoplasty. A penoscrotal approach is used.

METHODS

Patient Selection

After institutional review board approval, we searched our retrospectively collected database of PP surgeries for cases of proximal corporal deformity that were performed from May 2006 through March 2017 at the Johns Hopkins Hospital (Baltimore, MD, USA). The operative case records of the senior surgeon (A.L.B.) were reviewed. All cases of corporal reconstruction secondary to proximal corporal dilatation were recorded at the time of prosthesis revisions. Proximal corporal wall dilatation was assessed by preoperative clinical recognition of unsteadiness and/or mobility of cylinders inside the corpora cavernosa and intraoperative confirmation of distention and redundancy of the tunica albuginea. We excluded cases involving corporoplasty performed for proximal deformities incidentally discovered at the time of revision required for other reasons and for previously reconstructed corporal defect recurrences.

Perioperative Characteristics and Outcome Measures

Patient demographics and pertinent disease characteristics including presenting age, race, comorbidities, ED etiology based on clinical evaluation and penile duplex ultrasonography, duration of IPP treatment, and number of previous IPP surgeries were recorded. Perioperative findings including laterality, previous and current IPP type(s), maximal stretched corporal body length, last IPP status, ability to perform sexual intercourse, and follow-up time were assessed.

Management Protocol

Reduction corporoplasty was done at the time of prosthesis device removal and replacement. A penoscrotal approach was used (Figure 1). After confirmation of proximal corporal wall dilatation, neurovascular bundles were mobilized and preserved at the corporal body base. Redundant tunica albuginea was excised along the ventrolateral aspect of the corporal body after calibration over a size 13 Hagar dilator. After excision, the corporal defect was closed with running and interrupted 3-0 polydioxanone (Ethicon, Inc, Bridgewater, NJ, USA) sutures with completion of the closure after reinsertion of the appropriately measured prosthetic cylinder. Irrigation with the Mulcahy salvage protocol was done before device insertion.[8] At corporotomy closure, the prosthetic cylinder was inflated and inspected for alignment and stability. Replaced prosthetic devices were controlled expansion IPP devices (American Medical System [AMS] 700 Controlled Expansion, Minnetonka, MN, USA). IPP devices were activated 6 weeks after procedures.

RESULTS

We identified 5 patients with exclusively proximal corporal dilatation requiring prosthesis surgical revisions in the face of intact cycling but unstable IPP devices (wobble effect). All patients were unable to have penetrative sexual intercourse at presentation. Demographic and clinical variables are listed in Table 1. The mean age at the time of surgical reconstruction was 67 years (range = 56–77). The etiology of ED was veno-occlusive dysfunction in 3 patients based on penile duplex ultrasound study and secondary to retropubic radical prostatectomy in 2 patients. Most patients had multiple previous IPP surgeries with a median number of 3 revisions (range = 1–4). In

Table 1. Demographic and clinical characteristics

Patient	Age (y)	Race	Comorbidities	Etiology of ED	Previous therapy	Previous IPP surgeries, n	IPP duration (y)	Presentation with failure since last IPP surgery (mo)
1	72	AA	HTN, DSL, gout, depression	CVOD	PDE5i, IPP	1	3	10
2	77	AA	HTN, DSL, DM, arthritis	RRP	PDE5i, ICI, IPP	3	17	Immediate
3	63	CA	depression, epilepsy	CVOD	PDE5i, ICI, MUSE, IPP	3	18	Immediate
4	67	AA	DSL, IHD, DM	CVOD	PDE5i, ICI, IPP	4	31	Immediate
5	56	AA	none	RRP	PDE5i, ICI, IPP	1	5	14

AA = African American; CA = Caucasian; CVOD = corporal veno-occlusive disease; DM = diabetes mellitus; DSL = dyslipidemia; ED = erectile dysfunction; HTN = hypertension; ICI = intracavernosal injection; IHD = ischemic heart disease; IPP = inflatable penile prosthesis; MUSE = medicated urethral system for erection; PDE5i = phosphodiesterase type 5 inhibitor; RRP = retropubic radical prostatectomy.