MEN UNDERGOING PENILE PROSTHESIS HAVE SIMILAR PREOPERATIVE AND POSTOPERATIVE PENILE LENGTHS DESPITE PERCEPTIONS

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ABSTRACT

Purpose:
To identify preoperative parameters that better predict postoperative penile length following inflatable penile prosthesis (IPP) to aide patient expectation.

Materials and Methods:
From April 2012 to July 2012, 24 men were enrolled in a prospective study examining penile length before and after IPP. Inclusion criteria were any male with erectile dysfunction who failed medical therapy and was deemed medically fit to undergo surgery. Patients with Peyronie's disease were excluded. Flaccid penile length and stretched penile length measurements were recorded prior to device implantation. Flaccid and stretched penile lengths were then compared to a pharmacologically-induced erection with a standard intracavernosal injection (ICI) of aloprostadil. Baseline preoperative characteristics including age, history of hypertension, diabetes, SHIM scores, and/or prior radical prostatectomy were recorded. All patients underwent implantation of a 3-piece inflatable Coloplast Titan ® penile prosthesis by a single surgeon (JFE). At 3 months postop, patients' perception of their penile size was assessed as well as objective measurements were recorded. Wilcoxon rank sum test and Chi-squared statistical analysis were performed using SPSS ® v21 with significance defined as $p \leq 0.05$.

Results:
The median stretched penile length versus a pharmacologically-induced erection via ICI was 13 cm and 14 cm respectively (p = 0.86). A pharmacologically induced erection had the best correlation coefficient (r2 = 0.84, p = 0.002, Table 2) to predict post-prosthesis penile length. Men with pre-existing medical comorbidities did not have any statistical difference in preoperative or postoperative penile lengths (Table III). Less than half of patients had an objective decrease greater than 0.5cm in post-prosthesis penile length when compared to a pharmacologically-induced erection. Of these men, none reported a subjective decrease in penile length.

Conclusions:
Preoperative ICI remains the best predictor of post prosthesis penile length. Preexisting medical comorbidities do not appear to affect preoperative or postoperative penile lengths. Men may subjectively appreciate a larger post-prosthesis penile length, however objectively this is not necessarily true when compared with stretched penile length or pharmacologically-induced erections. Such information may better aide preoperative counseling and setting patient expectations prior to undergoing penile prosthesis surgery.

SPECIFIC AIMS:

- To identify predictors of post-prosthesis penile length
- To identify if pre-existing medical co-morbidities affect post-prosthesis penile length
- To determine which preoperative parameters predict a decrease in post-prosthesis penile length

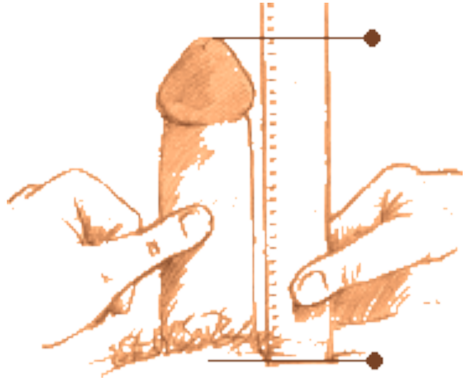
METHODS:

Cohort
- From 4/12 to 7/12, 24 men prospectively enrolled
- Inclusion criteria: Organic ED after failure of medical therapy
- Exclusion criteria: Men with history of Peyronie's disease

Surgical Technique
- 3-piece inflatable Coloplast Titan ® prosthesis by a single surgeon (JFE)

Measurements
- Measured from pubic bone to meatus along dorsum of the shaft (cm)
- ICI with 5 mcg aloprostadil for PIPL

Abbreviations:
***Interquartile Ranges**
ŧ = pharmacologically induced penile length (PIPL)
¶ = post-prosthesis penile length (PPPL)



RESULTS:

Table 1. Baseline characteristics of men undergoing IPP

N = 24	Median (IQRs*) or n (%)
Age	65 (58.75, 71.25)
HTN	12 (50%)
DM	8 (43%)
HL	6 (25%)
SHIM	9 (2.25, 9.75)
History of RRP	8 (33%)
Flaccid penile length (cm)	10 (9, 11)
Stretched penile length (cm)	13 (12.5, 15.25)
PIPL[ŧ] (cm)	14 (12.5, 15.5)
PPPL[¶] (cm)	14.25 (13, 16.25)
Cylinder Size	21 (20, 22)

Table 2. Preoperative penile length measurements to predict post-prosthesis penile length

	PPPL[¶] R^2	P value
Flaccid penile length	0.48	0.05
Stretched penile length	0.52	0.04
PIPL[ŧ]	0.84	0.002

Table 3. Correlation of preoperative medical co-morbidities with post-prosthesis penile length

	No Comorbidities	> 1 Comorbidity	P value
Stretched penile length	15	13	0.69
PIPL[ŧ]	14.75	14	0.76
PPPL[¶]	14	13.5	0.9

Table 4. Comparison of post-prosthesis penile length discrepancies and preoperative parameters

	No discrepancy (n = 4/7)	>0.5cm decrease (n= 3/7)
Median Age	68	66
HTN	3/4	1/3
DM	1/4	1/3
Prior RP	0/4	1/3
HL	1/4	2/3
Median SHIM	3.25	2.3

CONCLUSIONS:

- Pharmacologic-induced erection provides the best correlation with post-prosthesis penile length
- Preoperative medical comorbidities do not appear to predict post-prosthesis penile length
- Despite a non-significant decrease in post-prosthesis penile length, patients' subjective perception of length is not affected