

Title: A PROSPECTIVE CONCURRENT STUDY OF THE LONGITUDINAL EFFECTS ON STRETCHED PENILE LENGTH AFTER ROBOTIC AND OPEN PROSTATECTOMY FROM AN INTRAURETHRAL ALPROSTADIL /SILDENAFIL PENILE REHABILITATION STUDY

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Introduction and Objective: Several observational cross sectional and prospective longitudinal studies have reported the loss of penile size after radical prostatectomy. This observation is supported by histological studies in animals and humans after cavernous nerve injury demonstrating cavernous smooth muscle fibrosis and apoptosis. As part of a concurrent bi-institutional penile rehabilitation study with identical inclusion, treatment and outcome measures, we compared the stretched penile length (SL) after radical retropubic prostatectomy (RRP) and robotically assisted laparoscopic prostatectomy (RAP).

Methods: A multi-center randomized prospective comparative study of the effect of 9 months of nightly intraurethral alprostadil (IUA) vs. sildenafil (SC) on patients having RRP and RAP was performed. Medication was started at week 1. Stretched penile length (SL) was measured preoperatively as well as postoperatively at 1 week, 1, 3, 6, and 9 months after surgery (SL1-SL6). SL was measured according to published techniques. The study is ongoing.

Results:

207 patients were enrolled at both centers. 51 pts withdrew from the study (25%). 178,174,167,150,130,108, patients are available for visits 1-6 (V1-V6) respectively. Patients were randomized 2/1 IUA vs. SC. (131/67). Mean age, baseline IIEF survey score, SL1, SL2, were virtually identical at both centers. For both RAP and RRP groups, there was no significant difference in the change in SL from baseline between IUA and SC treatment arms at any visit. There was a significant difference between RAP and RP in SL change from baseline at 3, 6, and 9 month follow up visits, in both treatment arms.

Conclusions: Penile shortening after prostatectomy occurs immediately regardless of type of prostatectomy. Both nightly IUA and SC were well tolerated. There was no apparent difference in percent change of SL over time between both medical treatment arms. There appears to be a significant difference between RAP and RRP in stretched penile length loss. This difference may represent site specific measurement techniques or outcome differences due to surgical technique. Further study of this phenomenon is ongoing.

Procedure	Change in SL2* @ 1 week	Change in SL4 *@ 3 mos	Change in SL5* @ 6 mos	Change in SL6* @ 9 mos
RRP (n=56)	-7.2 %	-8.2%	-9.8%	-13.2
RAP (n=100)	-5.2 %	-2.1%	0%	-1.0%
p-value	0.27	0.0034	0.0001	<0.0001
* = change in stretched length from baseline (preoperatively)				

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