Recovery of erectile function after nerve sparing radical prostatectomy and penile rehabilitation with nightly intraurethral alprostadil versus sildenafil citrate.

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Abstract

PURPOSE: To our knowledge we report the first large, randomized, prospective penile rehabilitation clinical trial to compare the effectiveness of nightly intraurethral alprostadil vs sildenafil citrate after nerve sparing prostatectomy.

MATERIALS AND METHODS: We performed a prospective, randomized, open label, multicenter American study in men with normal erectile function who underwent bilateral nerve sparing radical prostatectomy. The International Index of Erectile Function erectile function domain was the primary end point. Subjects initiated nightly treatment within 1 month of surgery with intraurethral alprostadil or oral sildenafil citrate (50 mg) for 9 months. After 1-month washout and before sexual activity subjects self-administered sildenafil citrate (100 mg) for a total of 6 attempts in 1 month. Secondary end points were the global assessment question, sexual encounter profile, Erectile Dysfunction Inventory of Treatment Satisfaction and measured stretched penile length.

RESULTS: Of 139 men who started intraurethral alprostadil and 73 who started sildenafil citrate, 97 and 59, respectively, completed the trial. There were no statistically significant differences in International Index of Erectile Function erectile function domain and intercourse success rates to intraurethral alprostadil. The global assessment question was significantly better only at 6 months for intraurethral alprostadil (p <0.028). At completion there were no differences between treatments for any of the end points.

CONCLUSIONS: This is the first study to directly compare the ability of alprostadil and a phosphodiesterase-5 inhibitor to enhance penile recovery subsequent to bilateral nerve sparing radical prostatectomy. The use of nightly subtherapeutic intraurethral alprostadil is well tolerated after radical prostatectomy. The benefit to return of erectile function of nightly sildenafil citrate and subtherapeutic intraurethral alprostadil appears to be comparable within the first year of surgery.

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