Sildenafil, tadalafil, and vardenafil are equally effective treatments for erectile dysfunction after bilateral nerve sparing prostatectomy

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Objective: Since the introduction of sildenafil in late 90’s, the treatment algorithm for erectile dysfunction (ED) following radical prostatectomy (RP) has changed rapidly and oral agents have become the first line agents. The role of sildenafil has been widely investigated since the landmark study by Goldstein et al in 1998. Vardenafil and tadalafil are two recently introduced PDE-5 inhibitors who are reported to be effective in the treatment of ED following RP. However, no one has compared the efficacy of individual drugs in the same population. Our objective was to compare the therapeutic efficacy of tadalafil and vardenafil, in patients successfully responding to sildenafil for the treatment of ED after bilateral nerve sparing RP.

Design: Prospective study.

Materials and Methods: In this prospective cross over study, we included 46 men with ED following bilateral nerve sparing RP who previously responded to 100mg of sildenafil. The baseline (without any treatment) and sildenafil SHIM scores (abridged version of International Index of Erectile Function) were collected for all patients. Patients were given 20mg tadalafil for 5 weeks, then 20mg vardenafil for 5 weeks. All patients had a one-week washout period between drugs and the sequence of drug use was random. All patients completed the Sexual Health Inventory of Men (SHIM) questionnaire, the Cleveland Clinic Foundation Rigidity (CCFR) Score, and a side-effect profile after each drug. CCFR was graded on the visual analogue scale of 1-100 (1 = 0-20, 2 = 30-40, 3 = 50-60, 4 = 70-80, 5 = 90-100.) Results: Thirty-nine patients (39/46) completed a 5 week trial of each PDE-5 inhibitor, 5 patients discontinued due to side effects, and 2 patients lost to follow-up. The mean SHIM score for sildenafil was 18.2 ± 1.26, tadalafil 17.6 ± 1.4, and vardenafil 17.9 ± 1.9. Mean CCF Rigidity score (0-5) for sildenafil was 3.8 ± 0.9, tadalafil 3.1 ± 0.7, and vardenafil 3.3 ± 0.8. Patients with pre-treatment (baseline) SHIM scores < 10 preferred sildenafil, while >10 patients preferred tadalafil. Of the 46 patients, 23 (50%) still preferred sildenafil, 14 (30%) preferred tadalafil, and 9 (20%) preferred vardenafil. Most frequent side effects reported with sildenafil were headaches (n = 4), flushing (n = 3) and visual disturbances (n = 1). Most frequent side effects with tadalafil were backache (n = 5), headache (n = 3) and flushing...
(n = 1). Headache (n = 6) and flushing were the two most common side effects with vardenafil. None of the patients discontinued sildenafil due to side effects, while three patients discontinued tadalafil due to backache and two discontinued vardenafil due to headaches.

Conclusion: Sildenafil, tadalafil, and vardenafil, are equally effective treatments in patients with erectile dysfunction after nerve sparing radical prostatectomy. Support: None

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