**PDE5 inhibitors: considerations for preference and long-term adherence.**

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**Abstract**

**INTRODUCTION:** Erectile dysfunction (ED) is a highly prevalent condition affecting nearly one in five men worldwide. The advent of phosphodiesterase type 5 inhibitors (PDE5i) has revolutionised the ED treatment landscape and provided effective, minimally invasive therapies to restore male sexual function.

**MATERIALS AND METHODS:** A pubmed search was performed of all English language articles from 1996 to present reviewing PDE5i, including pharmacokinetics, efficacy profiles and comparisons, where available.

**RESULTS:** Currently available PDE5i in the United States include sildenafil, vardenafil, tadalafil and avanafil, each of which has unique side effect, pharmacokinetic and outcome profiles. Sildenafil is associated with increased rate of visual changes, vardenafil with QT prolongation and tadalafil with lower back pain. Avanafil and vardenafil orodispersible tablet rapidly achieve peak plasma concentration, which results in faster onset of action, whereas tadalafil exhibits the longest half-life. First time response to PDE5i is approximately 60-70%, with no significant differences in efficacy noted among therapies. The literature does not clearly demonstrate a preference for one drug. High-treatment success rates (89%) were reported when patients were prescribed all available PDE5i. Daily dosing with tadalafil is associated with improved erectile function (EF) over time. Finally, novel modes of patient-provider interaction, including internet-based education, communication and prescribing, may also improve long-term adherence.

**CONCLUSIONS:** PDE5i represent first line therapy for ED with excellent overall efficacy and satisfactory side effect profiles. Enhanced communication, coupled with increased knowledge of drug characteristics, comparative treatment regimens and optimal prescribing patterns, offer compelling tools to improve long-term treatment success.

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PMID: 23869678 [PubMed - in process]