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COADMINISTERED VARDENAFIL (FOR ERECTILE DYSFUNCTION) AND TAMSULOSIN DO NOT INDUCE HYPOTENSION IN PATIENTS WITH BENIGN PROSTATIC HYPERTROPHY

Stephen Auerbach, Marc Gittelman, Arthur Mazzu, P.R. Sandaresan, William B. White. California Professional Research, Newport Beach, CA; South Florida Medical Research, Aventura, FL; Bayer Healthcare, West Haven, CT; University of Connecticut School of Medicine, Farmington, CT.

Introduction: Concomitant use of certain alpha-blockers in patients with benign prostatic hypertrophy (BPH) and PDE5 inhibitors for erectile dysfunction (ED) may potentially produce hypotension (i.e., clinically relevant reductions in blood pressure (BP)). The study objective was to explore the pharmacodynamic effects of vardenafil (Levitra®) when administered to BPH patients receiving chronic tamsulosin (Flomax®) therapy.

Methods: In a placebo-controlled, two-stage, two-way crossover study, 22 patients, 40-80 years of age, on stable (>4 weeks) tamsulosin therapy for BPH (18/22 on 0.4 mg and 4/22 on 0.8 mg tamsulosin daily) received vardenafil 10 mg (or placebo) in stage one, followed by vardenafil 20 mg (or placebo) in stage two, simultaneously with tamsulosin. Each stage was analyzed as a separate two-way crossover study (vardenafil 10 mg vs placebo and vardenafil 20 mg vs placebo). The mean maximal change from baseline was evaluated for standing BP and heart rate (HR) up to 6 hours post-dosing. Each parameter was analyzed using analysis of covariance.

Results: Simultaneous vardenafil and tamsulosin produced small clinically insignificant changes in mean maximal standing BP and HR (Table). Two placebo-treated patients, and 1 vardenafil 10 mg treated patient experienced a drop of ≥20 mmHg in standing DBP, and one vardenafil 10 mg patient had a standing SBP drop >30 mmHg. One patient treated with tamsulosin 20 mg and tamsulosin 0.4 mg reported dizziness lasting 10 min, but never had a SBP <95 mmHg. No patient exhibited symptomatic hypotension (SBP <85 mmHg with dizziness). Other adverse events experienced by vardenafil 10/20 mg-treated patients were transient mild-to-moderate flushing (27%/14%), headache (9%/14%), nasal congestion (14%/5%), and dizziness (0%/14%), consistent with the class. There were no serious adverse events or withdrawals due to adverse events during the study.

Conclusion: Small asymptomatic reductions in standing BP were observed in BPH patients given vardenafil 10 and 20 mg simultaneously with tamsulosin relative to placebo. There was no evidence that co-administration of these agents induced clinically significant reductions in BP.

Key Words: Vardenafil, Tamsulosin, Erectile Dysfunction

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PHOSPHODIESTERASE TYPE 5 INHIBITION WITH SILDENAFIL PRESERVES ENDOTHELIAL FUNCTION DURING SMOKING

Charalampos Vlahopoulos, Dorothea Tsekoura, Nikolaos Alexopoulos, Konstantinos Aznaouridis, Demosthenes Panagiotakos, Nikolaos Ioakeimidis, Dimitris Toussoulis, Christos Pitsavos, Christodoulos Stefanidis. Cardiology, Athens Medical School, Athens, Greece.

Smoking induces an acute impairment in endothelial function. Sildenafil is an effective drug for erectile dysfunction which acts by inhibiting breakdown of c-GMP through selective phosphodiesterase type 5 inhibition.

We studied 14 healthy volunteers (age 34.2±4 years) without known cardiovascular risk factors except for smoking. The subjects smoked one standard cigarette (0.9 mg nicotine) on 2 separate occasions, one with sildenafil (50 mg) and one with placebo according to a randomized, double-blind, crossover, fashion. Endothelial function was evaluated with flow-mediated dilatation (FMD) of the brachial artery after reactive hyperemia induced by cuff occlusion using high-resolution ultrasonography (10.5 MHz).

Sildenafil abolished the decrease in FMD of the brachial artery that was induced acutely by smoking (left figure). This was associated with no reversal effect of sildenafil on smoking-induced decrease in resting brachial artery diameter (by 0.08 mm for both the sildenafil and placebo sessions, P<0.05 for both) and with a partial reversal of the smoking-induced decrease in hyperemic brachial artery diameter (right figure).

Sildenafil protects from endothelial dysfunction that is induced by smoking acutely. This finding provides new insights into the overall cardiovascular profile of the drug.

Key Words: Sildenafil, Endothelial Function, Flow Mediated Dilatation

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RELATIONSHIP OF ARTERIAL ELASTICITY AND ERECTILE DYSFUNCTION IN HYPERTENSIVE MEN

Don Loeb, Jr., Helen Fain, L. Michael Prisant. Hypertension & Clinical Pharmacology, Medical College of Georgia, Augusta, GA.

Age, hypertension, diabetes mellitus, hyperlipidemia, and smoking are related to arterial stiffness and erectile dysfunction. However, it is unclear whether a relationship exists between arterial stiffness and erectile dysfunction. To study this question, 106 consecutive hypertensive men completed the Sexual Health Inventory for Men (SHIM) Scale, a five-item questionnaire that assesses confidence, hardness, and maintenance of an erection and completion and satisfaction of sexual intercourse. Arterial elasticity (HDI/PulseWave CR-2000, Eagan, MN) was measured 3 times supine after resting for 5 minutes. The study population was 70% white and included 43% smokers or ex-smokers, 24% diabetics, and 50% hyperlipidemics. The mean age was 58.7 years; hypertension duration was 13.7 years, and average SHIM score was 14.7. There was a direct correlation with SHIM score and age (r=.41, p=0.0001), hypertension duration (r=.33, p=0.0009) and small artery elasticity (r=.248, p=0.0105). There was no relationship with large artery elasticity. It is concluded that erectile dysfunction and arterial stiffness are correlated.

Key Words: Erectile Dysfunction, Arterial Elasticity

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SILDENAFIL CITRATE HAS MILD NITRATE-LIKE HEMODYNAMIC EFFECTS IN PATIENTS WITH CORONARY ARTERY DISEASE AND ERECTILE DYSFUNCTION

Arthur Crowley, Hunter Gillies. Pfizer Inc, New York, NY; Pfizer Inc, Sandwich, United Kingdom.

The hemodynamic effects of sildenafil have not been assessed in a positively controlled study. The purpose of this study was to determine if