

URODYNAMIC EFFECTS OF THE ASSOCIATION OF TAMSULOSIN AND DAILY TADALAFIL IN MEN WITH BLADDER OUTLET OBSTRUCTION SECONDARY TO BENIGN PROSTATIC HYPERPLASIA: A RANDOMIZED, PLACEBO CONTROLLED CLINICAL TRIAL

Hypothesis / aims of study

The aim of this study were to evaluate the effect of association of tamsulosin and tadalafil taken daily in the lower urinary tract with urodynamic study (UDS), as well as its potential to cause side effects.

Study design, materials and methods

All patients underwent baseline UDS before randomization to tamsulosin 0.4 mg / tadalafil 5mg (Group 1; n=20) or tamsulosin 0.4 mg/ placebo (Group 2; n=20) once daily for 30 days. End of study UDS were performed on completion of the treatment period. The primary end point was to demonstrate changes in urodynamic variables of the voiding phase, reduction of detrusor pressure at maximum flow (PdetQmax) and increase in maximum urinary flow rate (Qmax), from baseline to week four.

Results

The primary outcome measure of this clinical trial, PdetQmax, showed a significant reduction in Group 1 from baseline to end point ($P=0.017$), but in Group 2 there was no difference ($P=0.71$). (Figure 1) The Qmax increased significantly in both groups from baseline to end point, but there is no difference comparing the groups at the end ($P=0.09$). The IPSS improved significantly in both groups from baseline to end point. However, when comparing the mean IPSS at week four, there is significantly improvement in Group 1 ($P = 0.02$). (Figure 2)

Interpretation of results

There is speculation that the impact on symptoms is due to detrusor contractility depression (reduction in PdetQmax), and consequently there is concern that PDE inhibitors might be related to impaired bladder function in the future. However, during micturition, PdetQmax reflects outlet resistance. When the urethra opens widely (nitric oxide) with a high flow (Q), little Pdet is needed to achieve the work necessary to empty the bladder. Therefore, the message is that low voiding pressure found in patients using tamsulosin/tadalafil does not equate with impaired detrusor contractility.

Concluding message

The association of tamsulosin and tadalafil taken daily significantly reduced the detrusor pressure at maximum flow and IPSS compared with tamsulosin and placebo. The combination of tamsulosin / tadalafil was also well tolerated with low side effects. Therefore, this association is an option for treating patients with clinical BPH who had no clinically significant improvement in symptoms with the use of tamsulosin.

Figure 1 - Change of detrusor pressure at maximum flow from the baseline to end point.

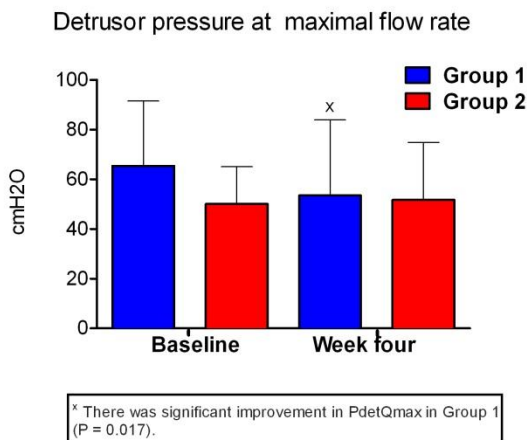
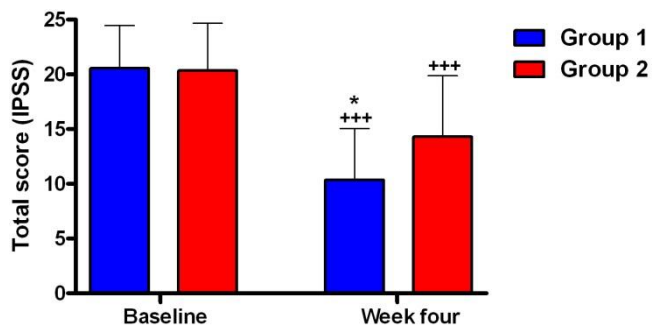


Figure 4 - Change of International Prostatic Symptoms Score from the baseline to end point.



+++P<0.001 pre-treatment versus post-treatment comparing the same Group.
 *P=0.0200 post-treatment comparing Group 1 versus Group 2

References

1. Mônica FZ, Bricola AA, Báu FR, et al: Long-term nitric oxide deficiency causes muscarinic supersensitivity and reduces beta(3)-adrenoceptor-mediated relaxation, causing rat detrusor overactivity. Br J Pharmacol. 2008; 153: 1659.
2. Dmochowski R, Roehrborn C, Klise S, Xu L, et al: Urodynamic effects of once daily tadalafil in men with lower urinary tract symptoms secondary to clinical benign prostatic hyperplasia: a randomized, placebo controlled 12-week clinical trial. J Urol. 2010; 183: 1092.
3. Roehrborn CG, McVary KT, Elion-Mboussa A, et al: Tadalafil administered once daily for lower urinary tract symptoms secondary to benign prostatic hyperplasia: a dose finding study. J Urol 2008; 180:1228.

Disclosures

Funding: Source of Funding: This research was supported by the Fundação Cearense de Apoio ao Desenvolvimento Científico e Tecnológico - FUNCAP e Conselho Nacional de Desenvolvimento Científico e Tecnológico - CNPq. **Clinical Trial:** Yes **Public Registry:** No **RCT:** Yes **Subjects:** HUMAN **Ethics Committee:** Comitê de ética médica Hospital das Clínicas Walter Cantídeo Universidade Federal do Ceara **Helsinki:** Yes **Informed Consent:** Yes