

# Effect Of The Plant Extracts Pygeum Africanum And Urtica Dioica On Lower Urinary Tract Symptoms Due To Benign Prostatic Hyperplasia In Nigerian Men

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## Abstract

### Introduction

Benign Prostatic Hyperplasia (BPH) is one of the most common conditions urologists attend to and its treatment constitutes a great economic burden. Though alpha blockers have been the mainstay of medical treatment, there are documented preferences for use of plant based therapies over chemically derived compounds. The aim is to evaluate the effect of a combined extract of Urtica dioica and Pygeum africanum on Lower Urinary Tract Symptoms (LUTS) in Nigerian men.

### Materials and Methods

We reviewed the clinical records of patients with LUTS from BPH who had used the combined extract of Urtica dioica and Pygeum africanum. We assessed the International Prostate Symptom Severity Scores (IPSS) and the postvoidal residual urine volume (PVR) before and after an eight-week of use of the extract.

### Results

There was an improvement in the IPSS in 69.1% from a mean of 6 to a mean of 3.5. There was also an improvement in PVR in 43.8% of the patient from a mean of 102mls to 40mls. There was no recorded sexually related side-effect.

### Conclusion

The plant extracts containing Urtica dioica and Pygeum africanum may play a role in ameliorating LUTS in some selected patients with BPH.

## INTRODUCTION

Benign prostatic hyperplasia is the most common benign tumour of the adult male (1) and men with LUTS from clinical BPH constitute a great percentage of patients seen in urology clinics. Its treatment does constitute a significant economic burden (2). There are various options of treatment depending on the stage of the disease with many urologists preferring medications in the early stages and surgery for the more advanced stages or complicated cases. Different medications of proven efficacy over the years include  $\alpha$ -adrenergic blockers like prazosin, doxazosin, tamsulosin, alfuzosin and 5 alpha reductase inhibitors like finasteride and dutasteride.

Recently some plant extracts like Pygeum africanum have been shown in some studies to have an effect on LUTS in men. Though the active ingredients in these extracts and their mechanisms of action are often poorly understood, the

appeal of plant extracts is the fact that their usage avoids some of the untoward side effects of the synthetic agents used in the treatment of Clinical BPH/LUTS. There are however concerns about the pharmaceutical quality of some of these extracts (3) and sometimes unknown risks with prolonged use (4). Pygeum africanum is derived from the African plum tree (5). It is postulated that the active components in the extracts include phytosterols and long chain fatty alcohols and animal studies suggest that these compounds modulate bladder contractility, decrease inflammation and decrease the production of leukotrienes (6). Recent data suggest that African plum tree extract can improve urinary symptoms when compared to placebo. (7) Though like most phytotherapeutic agents, the exact mechanism of Pygeum africanum is unknown, meta-analysis of clinical studies of Pygeum africanum suggests it modestly improves urinary flow rates (8).

The use and prevalence of phytotherapeutic agents vary with geographical location. In addition, their acceptance is influenced by several factors (9). Their use is uncommon in the United States but it is estimated that up to 90% of all patients with BPH in Germany are treated initially with phytopharmaceutical agents (10). To our knowledge there is no documentation on their efficacy in our environment. We report our experience with the use of a plant extract combination in the treatment of LUTS.

## **MATERIALS AND METHODS**

We reviewed the clinical records of 107 patients with symptomatic BPH placed on *Urtica dioica* and *Pygeum africanum* in the preparation form of Prostatonin© over nine months (January 2009 to September 2009). We reviewed the International Prostate Symptom Score (IPSS) and the postvoidal residual urine volume (PVR) at the time of presentation and after eight weeks of being on a twice daily dose of the Prostatonin© tablet. The IPSS questionnaire was completed by the patient and the PVR measurement was carried out using ultrasound scan.

## **RESULTS**

A total of 107 patients were reviewed within the period of study. All of them were men with mild to moderate LUTS from clinical BPH who did not want the option of watchful waiting and had opted for Phytotherapy with Prostatonin© and had been on the medication for at least eight weeks. The mean age of the patient was 62 years (range 50-71 years). The mean prostatic volume was 55cm<sup>3</sup> (range 30-100). The IPSS score of the patients ranged from 4 to 9 with a mean of 6. Seventy four patients representing 69.1 % noticed an improvement in their symptoms, reporting IPSS ranging from 2 to 9 with a mean of 3.5. Thirty three patients (30.9%) did not notice any improvement in their symptoms. However no patient reported worsening of their symptoms. Only 32 patients had measurable PVR on ultrasound scan before commencement of medication and ranged from 30 - 140 cm<sup>3</sup> with a mean of 102 cm<sup>3</sup>. Ultrasound scan evaluation at eight weeks showed an improvement in the PVR in 14 (43.8%) of these patients with a mean PVR of 40cm<sup>3</sup>. There was no improvement in 18 (52.2%) patients. One patient discontinued the drug because of neck pain. There were no other reported side-effects.

## **DISCUSSION**

Plants extracts have been suggested to improve LUTS secondary to BPH. (8) There are however concerns about

their use. (3, 4) Moreover report on their use in our environment is scarce. This is possibly the first report on the use of plant extract in the treatment of LUTS due to BPH in our environment. We observed an improvement in IPSS in 69.1% % of the patients and no response in 30.9 %. There has also been some reduction in the mean PVR in 43.8 % of the patients.

Of patients with BPH who opt for medical therapy, the choice of medication is usually between  $\alpha$ -adrenergic blocker and 5  $\alpha$ -reductase inhibitor or a combination of both. They are of proven efficacy and have wide acceptability by patients. Some patients are however uncomfortable with some of the side effects like reduced libido and retrograde ejaculation. The appeal of plant extract lies not only in the fact that these sexually related side effects are absent, but in our environment where herbal treatment is still much sought after by patients, plant extracts represent an appealing option. Previous studies amongst Nigerians confirmed that the use of herbal medicine in crude forms or as pharmaceutical prepackaged dosage form in treating common ailments is popular (11, 12 and 13). There is no reason not to consider plant extracts as an option of treatment for the early, non-complicated cases of BPH in our environment.

Though our evaluation was retrospective and patient population small, we did document some objective improvement in the IPSS of more than half of our patients. These were however patients with mild to moderate symptoms. There was also an improvement in the PVR in a sizeable number of patients. We found its use was devoid of sexually related side effects. No major side effect was noticed during its use. Although it could be argued that these patients with mild to moderate symptoms could be managed by watchful waiting, we think *Urtica dioica* and *Pygeum africanum* in the preparation form of Prostatonin© could be a useful option in those patients who desire some form of treatment devoid of any significant general or sexually-related side-effects.

## **CONCLUSION**

Although this study cannot be regarded as entirely conclusive and further randomized prospective clinical trials would be required, we believe that the preparation of plant extracts of *Pygeum africanum* and *Urtica dioica* has a potential role in the treatment of some patients with mild to moderate LUTS from BPH. This report could serve as groundwork for further study on these plant extracts for

treatment of BPH in our environment.

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