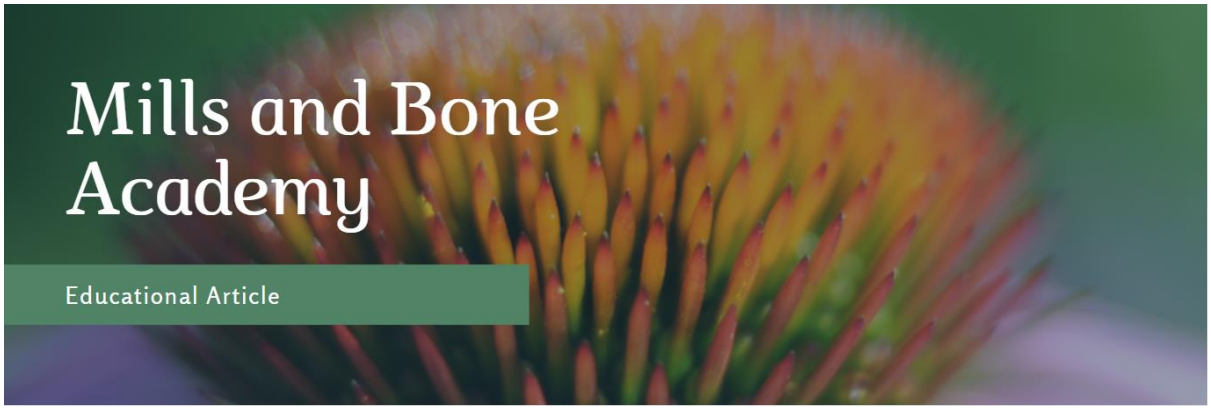

Nettle Root: A Synergistic Partner for Prostate Health – Kerry Bone

Benign prostatic hyperplasia (BPH) is a progressive, benign growth of the prostate gland that gradually narrows the urethra.[i] The clamping effect eventually obstructs the flow of urine. As a result, the bladder fails to empty completely. Urine remaining in the bladder stagnates, leaving the patient vulnerable to infections, bladder stones and kidney damage. The poor bladder capacity can cause frequent urination especially at night. Associated with BPH is therefore a set of lower urinary tract symptoms (LUTS). However, there is not always an exact correlation between the size of the prostate and the degree of LUTS, suggesting that other urodynamic factors are also involved.

The exact cause of BPH is not known and there have been various theories proposed.[ii] The recent understanding downplays androgens, both testosterone and dihydrotestosterone (DHT); their role is said now to be permissive. A higher oestrogen/testosterone ratio could be a causative hormonal factor and increased peripheral conversion of testosterone to oestradiol by the enzyme aromatase might be at play here. Chronic inflammation is also a common findingii and one theory has proposed that BPH is an immune-mediated inflammatory disease caused either by infection or autoimmunity (more likely the latter).[iii] There is a strong link between chronic prostatitis and BPH.[iv] Another theory proposes that higher circulating insulin stimulates prostate growth and hence links BPH to insulin resistance.[v,vi]

Multiple experimental, clinical and epidemiological studies have demonstrated the link between either hyperinsulinemia, elevated fasting blood glucose or type 2 diabetes and prostate enlargement and LUTS.v An association with obesity has also been observed.[vii] The sympathetic overactivity linked to obesity, metabolic syndrome (MS) and hypertension may increase the risk expressing of LUTS.[viii,ix] LUTS and MS have been shown to be comorbid and improving testosterone can help symptoms of LUTS.[x] Inflammation may also play a role (insulin resistance is a pro-inflammatory condition); elevated serum C-reactive protein correlates with the severity of LUTS.[xi]

Given this new understanding of BPH, emphasis needs to be placed on advising patients about appropriate weight-loss, dietary and exercise regimes for the management of insulin resistance and generalised inflammation. However, herbs can also contribute to the symptomatic

management of this disorder. While saw palmetto (*Serenoa repens*) is well known, good evidence has emerged for the root of the stinging nettle (*Urtica dioica*).

There are four key placebo-controlled trials that demonstrate the efficacy of nettle root in BPH/LUTS. Nettle root extract (1200 mg (5:1) per day) demonstrated a significant decrease in urinary frequency ($p<0.05$) and serum levels of sex hormone-binding globulin (SHBG) in a double blind, placebo-controlled trial with 40 patients.[xii] In the second placebo-controlled clinical trial involving 79 BPH patients, nettle root extract (600 mg (5:1) per day, for 6 to 8 weeks) was superior to placebo in all parameters measured (urinary flow, urinary volume, residual urine).[xiii] In a similar trial design, 50 patients (BPH stages I and II) treated with nettle root extract (600 mg (5:1) per day for 9 weeks) demonstrated a significant decrease in SHBG ($p<0.0005$) and significant improvements in micturition volume and maximum urinary flow. There was also an improvement in average flow for the herbal group.[xiv] A randomised, double blind, placebo-controlled, partial crossover trial of nettle root for the treatment of lower urinary symptoms (LUTS) secondary to BPH was completed in 558 men.[xv] At the end of the 6-month trial, 81% of patients in the active treatment group reported improvements in LUTS as compared to 16% in the placebo group ($p<0.001$). The International Prostate Symptom Score (IPSS) dropped from 19.8 to 11.8 in the nettle group and from 19.2 to only 17.7 for the placebo group ($p=0.002$). Peak flow rate improved by 8.2 mL/sec for treated patients and 3.4 mL/sec for the placebo recipients ($p<0.05$).

Clinical evidence also demonstrates that nettle root combines well with saw palmetto in the management of BPH. In fact, results for the combination seem to be particularly good, suggesting a possible synergistic relationship between the two herbs. As before, there are four key clinical trials for the combination, this time two against placebo and two against standard drug treatments.

In a placebo-controlled clinical trial, 40 patients with BPH were treated with a nettle and saw palmetto extract combination (240 mg/day of 10:1 extract of nettle root, 320 mg/day liposterolic extract of saw palmetto) or placebo over 24 weeks. Significant improvement was observed in the herbal treatment group, with peak flow up by 23% compared to 4% in placebo ($p<0.05$) and IPSS down by 40% compared to 7% for placebo ($p<0.05$).[xvi] In a randomised, double blind, multicentre clinical trial, the efficacy of the above combination of nettle and saw palmetto extracts was compared with the drug finasteride in the treatment of BPH stages I to II. A total of 516 patients completed a 48-week treatment with the herbal combination or finasteride (5 mg/day).[xvii,xviii] Both treatments significantly improved urinary flow and IPSS and there was no significant difference between the two. Fewer adverse events were reported for the herbal combination.

The efficacy and tolerability of the same combination of saw palmetto and nettle root was investigated in 257 elderly, male patients suffering from LUTS caused by BPH in a prospective multicentre trial.[xix] Patients treated with saw palmetto/nettle root exhibited a higher reduction in IPSS after 24 weeks of double blind treatment than patients in the placebo group (6 vs 4 points; $p=0.003$). This applied to obstructive as well as irritative symptoms, and in patients with moderate or severe symptoms at baseline. The same combination of saw palmetto and nettle root reduced the subjective symptoms of BPH to an extent comparable to tamsulosin.[xx] The two treatments were administered in a prospective, randomised,

double blind trial to patients suffering from BPH and not requiring surgery.

Given that some recent trials on saw palmetto on its own for BPH have yielded negative results, the case is even stronger for the value of a nettle root and saw palmetto combination, provided the doses used in the above clinical trials are recommended to patients.

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