

# Alternative Therapies for the Treatment of Chronic Prostatitis

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**Abstract** Chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS) is a prevalent disease for which there is no standardized therapy. Traditional treatments have included antibiotics,  $\alpha$ -blockers, and anti-inflammatories, but those have not proven to be efficacious therapies through many clinical trials. Alternative therapies, such as phytotherapy, acupuncture, and pelvic floor physical therapy, have grown in popularity for the treatment of CP/CPPS. As clinicians continue to explore these alternative therapies, there is an accumulation of strong evidence demonstrating the success of these alternative therapies.

**Keywords** Chronic prostatitis · Chronic pelvic pain syndrome · Alternative therapies · Phytotherapy · Quercetin · Pollen extract · Saw palmetto · Acupuncture · Biofeedback · Myofascial trigger point release

## Introduction

Prostatitis has an estimated prevalence in the community of about 9% and accounts for up to 2 million office visits per year in the United States [1, 2]. Of patients with symptomatic prostatitis, more than 90% have chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS) [3].

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This is a condition of urologic pain or discomfort in the pelvic region, associated with urinary symptoms and/or sexual dysfunction, lasting for at least 3 of the previous 6 months. CP/CPPS usually is a diagnosis of exclusion that can be made after ruling out infectious causes, urogenital cancer, urethral stricture, and neurologic diseases affecting the bladder.

Traditional treatments for CP/CPPS have included antibiotics,  $\alpha$ -blockers, and anti-inflammatory agents. However, several clinical trials have failed to demonstrate a statistically significant treatment effect for these traditional therapies compared to placebo [4–7]. Alternative therapies for the treatment of CP/CPPS, such as phytotherapy, physical therapy, and mind–body therapies, have been investigated and have shown some success in ameliorating the symptoms of CP/CPPS. This review will discuss these alternative therapies.

## Phytotherapy

Phytotherapy, the use of extracts from natural origins as medicines or health-promoting agents, has been gaining popularity in the United States to treat many chronic conditions. These alternative herbal-based therapies have become popular in the treatment of urologic disorders, especially for chronic prostatitis. In fact, the evidence that demonstrates efficacy for phytotherapeutic agents is more compelling than for the other traditional therapies.

## Quercetin

Quercetin is a polyphenol bioflavonoid with reported antioxidant, antihistamine, and anti-inflammatory properties that is commonly found in red wine, green tea, and onions.

Quercetin was studied in a randomized, double-blind, placebo-controlled trial conducted on 30 men with category IIIa or IIIb CPPS [8]. The study participants were randomly assigned to receive either placebo or bioflavonoid quercetin, 500 mg twice daily, for 1 month. Those patients who received quercetin had a mean improvement in National Institutes of Health Chronic Prostatitis Symptoms Index (NIH-CPSI) from 21.0 to 13.1 ( $P=0.003$ ) compared to an improvement of 20.2 to 18.8 in the placebo group ( $P$ =not significant). Overall, 67% of patients in the quercetin group reported an at least 25% improvement in symptoms compared to 20% improvement of the patients in the placebo group. After completion of the study, an additional 17 patients were treated with Prosta-Q (Farr Laboratories, El Segundo, CA) in an open-label study. Prosta-Q is a commercial formulation containing quercetin with bromelain and papain, which are digestive enzymes known to increase the intestinal absorption of quercetin. In this open-label study, 82% of patients had an at least 25% improvement in symptom score [8].

#### Pollen Extract

The extract of bee pollen has been used as treatment of CP/CPPS for over 20 years and is presumed to have anti-inflammatory and antiandrogenic activity [9].

The pollen-extract preparation Prostat/Poltit (Allergon AB, Ängelholm, Sweden) was studied in a randomized, double-blind, placebo-controlled trial [10]. In this trial, 60 men with CP/CPPS were randomized to receive either Prostat/Poltit or placebo for 6 months and were evaluated using a symptom questionnaire covering symptoms in seven pain locations, five voiding symptoms, three storage symptoms, and four sex-related symptoms. The patients who received Prostat/Poltit had a significantly lower pain score, less voiding symptoms, and less storage symptoms at the end of the 6-month treatment period compared to the patients who had received placebo.

A recent multicenter, randomized, double-blind, placebo-controlled study was conducted to assess the efficacy of the pollen extract Cernilton (AB Cernelle, Ängelholm, Sweden) for men diagnosed with CP/CPPS [11•]. A total of 139 men were randomized to receive Cernilton (two capsules every 8 h) or placebo for a 12-week treatment period. In the Cernilton group, 70.6% of patients had at least a 25% or at least 6-point decrease in their NIH-CPSI total score compared to only 50% of the placebo group ( $P=0.0141$ ). The individual domains of pain and quality of life for the NIH-CPSI also were significantly improved after 12 weeks of treatment with Cernilton compared to placebo.

#### Saw Palmetto (*Serenoa repens*)

Saw palmetto is an herbal lipid extract derived from the berry of the *Sabal serrulata* plant, which is indigenous to the Southeastern United States and the West Indies. The fruits of the saw palmetto are highly enriched with fatty acids and phytosterols, and extracts of the fruit have been the subject of many urologic studies. Many of these studies have investigated saw palmetto use for symptoms related to benign prostatic hyperplasia; however, only a few have studied its use specifically for CP/CPPS.

One such study compared the efficacy of saw palmetto versus finasteride treatment for 1 year in men with CP/CPPS [12]. A total of 64 men were randomly assigned to receive either saw palmetto (325 mg daily) or finasteride (5 mg daily) for 1 year. At 3 months of treatment, the patients treated with saw palmetto had improvements in NIH-CPSI total, pain domain, and quality of life domain scores; however, at 6 and 12 months these values returned to baseline. After treatment for 1 year, there was some improvement in NIH-CPSI scores in the finasteride group; however, there was no significant improvement seen in the saw palmetto group.

A combination phytotherapeutic agent that combines saw palmetto with selenium and lycopene (Profluss [Kon Pharma, Vechta, Germany]) recently was studied versus saw palmetto alone in a randomized, double-blind, multicenter trial [13•]. A total of 102 patients with CP/CPPS were randomized to receive either Profluss or saw palmetto alone daily for 8 weeks. After 8 weeks of treatment (16 weeks from baseline), the mean NIH-CPSI score significantly decreased from 27.45 to 13.27 ( $P<0.001$ ) for the Profluss group and from 27.76 to 20.62 ( $P<0.001$ ) for the saw palmetto group. The study results suggest that supplementing saw palmetto with selenium and lycopene, both of which have anti-inflammatory effects, may be useful in the treatment of CP/CPPS.

#### Acupuncture

Acupuncture is a traditional Chinese method of medical treatment that treats patients by insertion of needles at specific points of the body and manipulating them. The ability of acupuncture treatment to decrease pain, positively impact quality of life, and potentially modulate inflammation has led to its use as a therapeutic option in men with CP/CPPS.

A randomized, blinded, comparative study of acupuncture versus sham acupuncture was performed on 90 men with CP/CPPS [14•]. Participants were randomized to acupuncture or sham acupuncture treatments of 30 min twice weekly for 10 weeks, then followed for an additional

24 weeks. The results demonstrated that acupuncture was nearly twice as effective as sham acupuncture at improving NIH-CPSI symptom scores. After 10 weeks of treatment, 73% of acupuncture recipients responded, compared to 48% of the sham acupuncture group ( $P=0.02$ ). The acupuncture group also had better long-term response rates 24 weeks after treatment compared to the sham acupuncture group (34% versus 13%;  $P=0.04$ ).

A second study investigated the clinical effect of electroacupuncture, which is a form of acupuncture that provides continuous electric pulses between pairs of acupuncture needles. This three-arm randomized study compared three treatment groups: advice and exercise plus 12 sessions (twice a week for 6 weeks) of electroacupuncture; advice and exercise plus 12 sessions of sham electroacupuncture; and advice and exercise alone [15]. After treatment, the electroacupuncture group had a significant decrease in NIH-CPSI total score compared with the sham group and the exercise-only group. A subscale analysis of the NIH-CPSI demonstrated that electroacupuncture therapy had more of an effect on the pain symptom scores only and not in urinary symptoms or quality-of-life scores.

A recent cohort study of 97 patients with CP/CPPS who were treated with weekly sessions of acupuncture for 6 weeks demonstrated an excellent response rate of 92.5% of patients with a greater than 50% decrease in total NIH-CPSI score from baseline [16]. In addition, the response rate was unchanged at 12 and 24 weeks after the completion of the treatment, which suggests that acupuncture therapy for CP/CPPS may have a durable effect.

### Biofeedback

Biofeedback is an aspect of pelvic floor physical therapy that can provide beneficial results for patients with CP/CPPS because many of them have pain and spasm of the pelvic floor muscles. To break the cycle of spasm, the patient learns to control their pelvic floor muscles by visualizing the activity of the muscle on a computer and uses the visual feedback to achieve conscious control over pelvic floor muscle contractions.

A study to evaluate the effect of biofeedback physical therapy on the symptoms of CP/CPPS was conducted on 31 men who received weekly and biweekly physical therapy for 6 to 8 weeks [17]. After treatment, the mean NIH-CPSI score decreased from 23.6 to 11.4 ( $P<0.001$ ). In addition, the mean pelvic floor muscle tonus, as measured by rectal electromyography probe, decreased from 4.9 mV to 1.7 mV ( $P<0.001$ ) after treatment (normal resting tone is  $< 2$  mV).

A recent study of 21 men with nonbacterial chronic prostatitis and dysfunctional voiding was performed to investigate the effects of pelvic floor biofeedback [18]. After

10 weeks of pelvic floor biofeedback treatment, the mean NIH-CPSI score decreased from 21.7 to 8.4 ( $P<0.05$ ) and there was a significant improvement in urodynamic variables.

### Myofascial Trigger Point Release

Myofascial trigger point release is another aspect of pelvic floor muscle physical therapy that employs a technique of direct stretching, lengthening, and massage of trigger points and muscle spasm.

Anderson et al. [19] treated 138 men with CP/CPPS that were refractory to traditional therapy with myofascial trigger point release and paradoxical relaxation training for at least 1 month. About half of the patients had clinical improvements associated with a 25% or greater decrease in symptom scores. Overall, 72% of patients were considered a clinical success as reported by a marked or moderate improvement in the global response assessment.

A recent NIH-funded, randomized, multicenter study compared myofascial physical therapy and global therapeutic massage in 48 men and women with urological CPPS [20]. Patients were treated weekly for 10 weeks and the response to therapy was assessed by the global response assessment. The myofascial physical therapy group had a response rate of 57%, which was statistically higher than the rate of 21% in the global therapeutic massage treatment group ( $P=0.03$ ).

### Conclusions

Chronic prostatitis is a prevalent condition that remains difficult to treat. Traditional therapies, such as antibiotics and anti-inflammatories, have not proven to be successful in the treatment of CP/CPPS. Meanwhile, strong evidence continues to grow for the use of alternative therapies to successfully treat the symptoms of CP/CPPS, such as phytotherapeutic agents, acupuncture, and pelvic floor physical therapy.

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