



## Literature Review on the Actual Management of Chronic Prostatitis and Chronic Pelvic Pain Syndrome

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### ABSTRACT

Chronic prostatitis is a disease with an unknown etiology that affects a large number of men. The optimal management for category III chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS) is not codified. Standard treatment usually consists of prolonged courses of antibiotics, even though well-designed clinical trials have failed to demonstrate their efficacy. A review of the literature failed to identify any recognized and validated treatments for CP/CPPS. However, the current approach is multimodal including: antibiotics, alpha-blockers, phytotherapy, acupuncture, physiotherapy and minimally invasive surgery. These therapies can be successful for the majority of patients who present with this difficult condition.

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### Introduction

Chronic prostatitis (CP) remains a difficult in urology. Since his description in 1968 by Meares and Stamey and the first attempt at classification ten years later by Drach, the knowledge of this pathological entity was based only on hypotheses and poor data from literature. However, the last ten years have seen significant advances in PC research, resulting in a better evidence-based therapeutic approach.

The treatment of chronic bacterial prostatitis (PCB) (type II of the National Institute of Health) is well codified and consensual, which is far from the case of chronic prostatitis / chronic pelvic pain syndrome (PC / CPPS) ( Type III of the NIH).

The objective of this article is to present the different treatments currently proposed also to describe a scientific approach based on the evidence.

#### General Support Measures

Although efficacy has not been demonstrated in clinical trials, spicy foods, caffeine and alcohol, as well as seating baths are often discouraged in patients with CP / CPPS.

The role of ejaculation is controversial, as some men report an exacerbation of symptoms [1], while others report a marked improvement especially after regular ejaculations [2].

Stress was also incriminated in the CP / CPPS. In effect, Ullrich et al reported that most patients who were consulted were probably anxious because of intense and disabling pain [3].

On the basis of these findings, stress reduction is often advocated. It can help reduce disability and the response to pain. In addition, men with CP / CPPS are more likely to suffer neuropsychically than the normal population [4].

#### Treatment of Chronic Prostatitis and Pelval Pain Syndrome

There is no codification or consensual treatment for PC/ CPPS for multiple reasons:

- the etiopathogenesis of PC / SPPC is certainly complex and multifactorial;

- there are no diagnostic markers or tests;
- There are insufficient randomized, placebo-controlled trials for the proposed treatments, including those most commonly used.

Only 12 randomized, placebo-controlled trials using the NIH-Chronic Prostatitis Symptom Index (NIH-CPSI) as an assessment tool were selected and analyzed.

#### 1. Antibiotic

Antibiotic therapy remains a reference treatment for PC / CPPS despite the uncertainties about the infectious origin of this pathology and the absence of evidence of efficacy.

Two well-conducted studies on the methodology questioned the interest of antibiotic therapy:

- In 2003, Nickel et al. reported an improvement in symptoms assessed by NIH-CPSI in both levofloxacin groups and a placebo prescribed for six weeks. [5]

- In 2004, Alexander et al. Reported a modest reduction in the NIH-CPSI score in the four groups: ciprofloxacin alone or in combination with tamsulosin, tamsulosin alone and placebo prescribed for six weeks [6].

It can therefore be concluded that there is currently no evidence of efficacy of antibiotic therapy and that this treatment cannot be recommended.

#### 2. Alpha blockers

PC / CPPS patients often exhibit obstructive and irritative disorders of the lower urinary tract (LUT's) that are objectified by urodynamic examinations. Alpha-blockers can also have a direct effect on pain. It has been shown that prostatic inflammation leads to the secretion of a P-neuromediator responsible for a change in the perception of the algic message in the spinal cord and that this change is inhibited by tamsulosin [7].

A randomized study of the role of alfuzosin was performed in patients with CP / CPPS , demonstrated a statistically significant improvement in the NIH-CPSI score [8]. However, the effect lasted only a few months and disappeared when treatment was discontinued.

The results with tamsulosin are heterogeneous; In fact, Nickel et al noted a significant effect (9) whereas Schaeffer et al demonstrated the opposite [6] in comparison with placebo. In the latter group; the duration of treatment were short and included patients already taking alpha-blockers in the past but without symptomatic improvement? Cheah et al found that terazosin was more effective than placebo in another study [10].

### 3. Association Antibiotics and Alpha blockers

The discrepancy between the two randomized but uncontrolled studies and the absence of placebo control did not allow a formal conclusion.

### 4. Anti-inflammatory

Inflammation plays an important role in CP / CPPS . The high rate of inflammatory cytokines [11], low anti-inflammatory cytokines (interleukin-10) [12], endorphin or prostaglandins [13] have been correlated with the severity of symptoms in patients With CP / CPPS compared to healthy controls. Non-steroidal anti-inflammatory drugs have long been used in CP . In an uncontrolled study, ketoprofen in suppository and nimesulide peros have been shown to be effective in these patients [14]. Corticosteroids also have potent anti-inflammatory activity. In a small, uncontrolled study, Bates Talbot et al. Have found that prednisolone has been able to relieve the symptoms of patients. Nevertheless, the benefit / risk ratio must be weighed carefully given the multiple side effects of corticosteroid therapy [15].

### 5. Phytotherapy

In one open study, 90 patients received one Cernilton N tablet three times daily for 6 months. Excluding patients with anatomic factors (urethral stenosis, cervical sclerosis or prostatic stones) who did not respond to treatment, 36% were cured, while 42% had improved symptoms [14]. In a double-blind, randomized controlled trial of pollen extracts, Elist et al. reported a marked clinical improvement when compared with the placebo group [17]. Saw palmetto is the most commonly used phytochemical product in prostatic diseases, and is believed to act, in part, by a double anti-inflammatory and anti-androgen mechanism. This has been demonstrated through an open-label study in PC / CPPS patients conducted by Kaplan et al. In 2004. However, it remains less effective than placebo.

Quercetin, a biologically very active polyphenolic bioflavonoid often found in red wine, green tea and onions, has anti-inflammatory properties. In a prospective, randomized, double-blind, placebo-controlled study using the NIH-CPSI score, 500 mg quercetin was administered twice daily for 4 weeks. Patients had a significant improvement over the placebo group. This has been proved; Since quercetin results in a remarkable decrease in the levels of prostaglandin E2 in prostatic secretions. PGE2 is an indirect marker of prostatic inflammation [13].

According to all these studies, phytotherapy would seem to be of interest in the treatment of PC /CPPS with the advantage of a satisfactory tolerance.

### 6. Hormone therapy

In 2004, a randomized, placebo-controlled study conducted by Nickel et al showed that finasteride used in combination with other therapies provides mild symptom attenuation [9]. Thus, the authors never recommended finasteride as monotherapy and in the absence of an adenomatous component involved in voiding disorders.

### 7. Pentosan sodium polysulfate (PPS)

PPS is a mucopolysaccharide indicated in the treatment of interstitial cystitis. In 2005, Nickel et al. Compared 100 patients to placebo. The duration of treatment was 16 weeks. The authors concluded that PPS was significantly superior, but this study was not confirmed.

### 8. Prostate massage

It promotes the drainage of clogged prostatic ducts and the penetration of antibiotics into the gland. It could also destabilize bacterial biofilms and stimulate the neuromuscular receptors that run along the side wall of the pelvis. In an uncontrolled study, prostate massage 2 to 3 times a week for 4-6 weeks with concurrent antibiotic therapy has had some clinical benefit in patients with PC / CPPS [9].

### 9. Acupuncture

Several authors have noted the effectiveness of acupuncture in patients with PC / CPDS. In 2008, Lee et al. Compared acupuncture to simulated treatment in 99 patients with a NIH-CPSI score greater than or equal to 15 [18]. After a 24-week follow-up, the authors concluded that acupuncture was significantly superior, but this recent study requires confirmation.

### 10. Pelvic-perineal rehabilitation

Patients with CP / CPPS often complain of pain and spasm of the pelvic floor muscles. Rehabilitation aims to relax these muscle groups and helps in their best use; this could have a positive effect on the symptoms and also improve the sexual function in some men with CP / CPPS. Unfortunately, very few clinical trials have been published concerning the efficacy of this type of therapy.

### 11. Extracorporeal shock wave therapy

In 2009, Zimmerman et al. Have compared percutaneous extracorporeal shock wave therapy with simulated treatment (one session per week for four weeks) in 60 patients [19]. After a 12-week follow-up, the authors concluded that the effective treatment was significantly superior, but this recent study requires confirmation.

### 12. Minimally Invasive Surgery

In the 1980s, it was popular to try prostatic trans-urethral resection (RTUP), unfortunately the results were very mixed. Since then, surgery is no longer recommended in this context. The appearance of minimally invasive techniques has changed the situation. Indeed, TUNA has been shown to be effective in two randomized studies [20]. In several uncontrolled studies, TUMT has been considered by several authors as a real alternative that has proved effective in men with CP / CPPS [21] [22]. The main question is whether the necrosis of prostatic tissue induced by high temperatures could further aggravate the inflammatory component of this pathology.

Under these conditions, controlled studies are needed before recommending the systematic use of these therapies, at least from the perspective of a scientific approach based on evidence.

### 13. Other treatments

- Treatment of neuropathic pain (tricyclic antidepressants, inhibitors of serotonin and norepinephrine reuptake, gabapentin and pregabalin anticonvulsants, tramadol);
- Hepaticin;
- Pelvic electromagnetic stimulation;
- Sacral neuromodulation;

### Conclusion

Despite all the published studies and the many treatments proposed, it is not possible to identify a recognized and validated treatment of CP / CPPS .

Nevertheless, it is possible to draw some conclusions from the analysis of this literature:

- antibiotics, anti-inflammatories and hormone therapy are not recommended;
- alpha-blockers may be effective in newly diagnosed patients who have never received treatment, provided they are prescribed for 12 weeks to 6 months;
- phytotherapy and perineal rehabilitation could be effective;
- invasive or minimally invasive surgery of the prostate is not recommended;

Advances in CP / CPDS treatment will only come from new basic and clinical research.

### Conflicts of Interest

The authors do not declare any conflict of interest .

CONTRIBUTIONS OF THE AUTHORS: All the authors mentioned contributed to the establishment of this manuscript

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