Herbal Phytotherapy in Chronic Nonbacterial Prostatitis

Min Jung Park¹, Hyun Jun Park², Won Hee Cheon², Jih Hoon Park², Byung-Cheul Shin³, Nam Cheol Park¹,² Ø

¹The Korea Institute for Public Sperm Bank, ²Department of Urology, Pusan National University School of Medicine, ³Division of Clinical Medicine, Pusan National University School of Korean Medicine, Busan, Korea

Chronic prostatitis is a common, difficult to treat chronic disease that affects fertile males aged between 20 and 50 and has significant impact on quality of life [1]. Various contemporary medications and other options, such as antibiotics, α-blockers, nonsteroidal anti-inflammatory drugs, muscle relaxants, thermal therapy, and acupuncture have poor cure rates, which cause physician frustration and patient dissatisfaction [2,3]. Furthermore, the success rates of these medications have been ascribed by some to the known placebo effects of agents in chronic prostatitis. Nevertheless, efforts have been made over the last 50 years or more to develop effective medications to develop effective medications or alternative therapies. Although there are various alternative therapies, few have been subjected to scientific investigation based on rigorously designed, prospective, double-blind, placebo-controlled, randomized clinical trials.

Due to its proven efficacy, herbal phytotherapy might provide an alternative therapeutic option as an initial treatment of choice or as a component of combination therapy for the treatment of chronic prostatitis. Phytotherapeutic agents have been shown to possess anti-inflammatory properties, alpha-adrenergic blockade activity, and anticholinergic activity in many in vitro and clinical studies [3]. Phytotherapy has several potential advantages, which include a high level of patient acceptance, and a unique action not duplicated by drugs, and it is also relatively inexpensive. However, it has several disadvantages, such as lack of US Food and Drug Administration oversight and quality control, variable levels of active phytochemicals, lack of standardization of parameters (e.g., harvested condition, preparation characteristics, administration dose, etcetera), extravagant claims of efficacy, potential serious adverse events when administered with drugs, lack of database information regarding adverse side effects or drug interactions, and few well-designed clinical trials with long-term follow-up. Therefore, a means of studying the efficacy of herbal phytotherapy and guidelines are needed regarding its safe application including administration of dose and duration [4]. Furthermore, “seed-to-pill standardization” presents a greater challenge to botanical drugs than single-ingredient drugs.

This review introduces the use of oriental herbal phytotherapy in Korea, China and Japan in compares it with western phytotherapy for the treatment of
chronic prostatitis.

OVERVIEW OF PHYTOTHERAPEUTIC AGENTS

1. Western perspective

Five plants extracts have been tested in well-designed placebo controlled randomized clinical trials (Table 1) [2].

Quercetin is a natural, polyphenol bioflavonoid commonly found in red wine, green tea, and onions and has documented antioxidant and anti-inflammatory properties [5].

Cernitin water soluble T60 & lipid soluble GBX pollen extract mixture (*Secale cereal*, bee pollen, *Cernilton*®/*Cerniltol*®/*Prostat*®/*Poltit*®) is a flower (*graminaceae*) pollen extract (*rye-grass pollen extract*) used to treat chronic prostatitis. More than 75% of men treated were found to show a subjectively favorable response, which included reduced perineal pain, dysuria, and frequency.

African plum tree (*Pygeum africanum* or *Prunus africana*) include phytosterols (e.g., beta-sitosterol and n-docosanol) that have anti-inflammatory effects by inhibiting production of pro-inflammatory prostaglandins in the prostate additionally with inhibiting fibroblast production, increasing adrenal androgen secretion and restoring secretory activity of prostate.

Saw palmetto (also known as *Serenoa repens* or the American dwarf palm tree) berries, which are components of *Sabal serrulata* extract, is commonly used to treat chronic prostatitis and benign prostatic hyperplasia. Commercially available Permixon® (Pierre Fabre Medicament, Paris, France) and herbal Proscar® (Merck & Co., Whitehouse Station, NJ, USA) are well known.

South African star grass (*Hypoxis rooperi*, *Harzol®/Azuprostat®*), which contains high levels of beta-sitosterol like the American dwarf palm and the African plum tree, also has anti-inflammatory and antiandrogenic effects and also alters cholesterol metabolism.

These plant extracts have shown statistically significant improvements in pain, voiding symptoms, and quality of life in patients with chronic prostatitis or chronic pelvic pain syndrome, and mixtures of these plant extracts with other nutraceuticals or dietary supplements are widely available despite the absence of evidence-based benefits.

2. Oriental perspective

Oriental herbal medicine originated in China and has been developed in China, Korea, Japan, and in other Asian countries for more than 2000 years. Most of the herbal medicines developed for the treatment of chronic prostatitis or chronic pelvic pain syndrome, and mixtures of these plant extracts with other nutraceuticals or dietary supplements are widely available despite the absence of evidence-based benefits.

Table 1. Clinical trials and efficacy of herbal phytotherapeutic agents for chronic prostatitis and chronic pelvic pain syndrome

<table>
<thead>
<tr>
<th>Variable</th>
<th>Western perspective</th>
<th>Oriental perspective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quercetin</td>
<td>1 RCT</td>
<td>1 RCT</td>
</tr>
<tr>
<td>Pollen extract</td>
<td>8 RCT</td>
<td>2 RCT</td>
</tr>
<tr>
<td>Saw palmetto</td>
<td>20 RCT</td>
<td>1 RCT</td>
</tr>
<tr>
<td>African plum tree</td>
<td>18 RCT</td>
<td>1 RCT</td>
</tr>
<tr>
<td>South African star grass</td>
<td>4 RCT</td>
<td>2 RCT</td>
</tr>
<tr>
<td>Ba-Wei-Di-Huang-Wan®</td>
<td>NA</td>
<td>2 RCT</td>
</tr>
<tr>
<td>Niu-Che-Sen-Qi-Wan®</td>
<td>2 RCT</td>
<td>2 RCT</td>
</tr>
</tbody>
</table>

*RCT*: randomized placebo-controlled trial, *NA*: not applicable.

*Ba-Wei-Di-Huang-Wan® has alternative names Pal-Mi-Gi-Hwang-Hwan (Korean) and Hachi-Mi-Ji-Ou-Gan (Japanese). Niu-Che-Sen-Qi-Wan® has alternative names U-Cha-Shin-Ki-Hwan (Korean) and Go-Sha-Jin-Ki-Gan (Japanese).*
caisne, Dioscorea japonica Thunberg), Poria Sclerotium (Poria cocos Wolf), Alismatis Rhizoma (Alisma orientale Juzepzuk), Moutan Cortex Radicis (Paeonia suffruticosa Andrews), Cinnamomi Cortex (Cinnamomum cassia Presl), and Pulvis Aconiti Tuberis Purificatum (Aconitum carmichaeli Debeauleaux). On the other hand, Niu-Che-Sen-Qi-Wan is a ten component herbal mixture that consists of Rehmanniae Radix Preparata (Rehmannia glutinosa Liboschitz ex Steudel), Corni Fructus (Cornus officinalis Siebold et Zuccarini), Dioscoreae Rhizoma (Dioscorea batatas Decaisne, Dioscorea japonica Thunberg), Poria Sclerotium (Poria cocos Wolf), Alismatis Rhizoma (Alisma orientale Juzepzuk), Plantaginis Semen (Plantago asiatica Linné, Plantago depressa Willdenow), Achyranthis Radix (Achyranthes japonica Nakai, Achyranthes bidentata Blume), Moutan Cortex Radicis (Paeonia suffruticosa Andrews), Cinnamomi Cortex (Cinnamomum cassia Presl), and Pulvis Aconiti Tuberis Purificatum (Aconitum carmichaeli Debeauleaux).

3. Functional foods

Specific functional foods have been shown to benefit prostate health and to reduce symptoms of prostatitis (Table 2) [3]. Tomatoes are packed with lycopene, an antioxidant that may benefit prostate gland cells, and cooking tomatoes helps to release lycopene. Pomegranate and berries such as blueberries, raspberries, blackberries, and strawberries are excellent sources of antioxidants, which help to reduce free radical levels in vivo. Broccoli and other cruciferous vegetables such as pe-tsai, cauliflower, Brussels sprouts, and cabbages contain sulforaphane, which promote a healthy prostate. Legumes, pumpkin seeds (Cucurbita pepo, Carito®), nuts and shellfish are rich in zinc. Allium vegetables including garlic, onions, Korean leeks, and licorice, which are considered healthy additions to most diets also contain high levels of zinc. Interestingly, zinc, which is considered a trace mineral, is present at high concentrations in prostate and is believed to help balance testosterone and dihydrotestosterone levels and to act as an anti-inflammatory. Citrus variants such as orange, lemon, lime, and grapefruit are all high in vitamin C, which may help to protect the prostate gland. Korean red ginseng has been reported to protect against chronic nonbacterial prostatitis by suppressing inflammatory cytokines and apoptosis in rats. Salmon, sardines, and trout are rich in fats that contain omega-3 fatty acids, which help prevent and reduce inflammation within the prostate. However, more research is needed to establish high quality evidential links between functional foods and chronic prostatitis. As above results, some studies have shown that functional foods have positive effects on the resolution of symptoms of benign prostate hypertrophy and prostatitis.

In conclusion, recent years have witnessed a growing global trend toward the use of complementary, alternative, or supplemental medicines. Herbal phytotherapy may provide a novel means of treating chronic prostatitis. However, rigorously designed, long-term clinical trials with validated end points are required to confirm the efficacies of herbal phytotherapies and to identify underlying action mechanisms. In addition, means of standardizing natural herbal components are required to ensure consistent efficacies.

ACKNOWLEDGEMENTS

This study was supported by Biomedical Research Institute Grant (2011-01), Pusan National University Hospital.

Conflicts of Interest

The authors have nothing to disclose.

Author Contribution

Conceptualization: NCP. Data curation: NCP, JHP. Formal analysis: MJP, BCS. Investigation: JHP, WHC. Validation: HJP. Visualization: MJP. Writing–original draft: NCP. Writing–review & editing: MJP, WHC.
REFERENCES


