

## Short Communication on the Phytotherapy in Chronic Prostatitis/Chronic Pelvic Pain Syndrome in Our Research Center

Qinxin Zhao<sup>1,2</sup>, Nianzeng Xing<sup>1,2\*</sup>

<sup>1</sup>State Key Laboratory of Molecular Oncology, National Cancer Center/National Clinical Research Center for Cancer/Cancer Hospital, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing, China; <sup>2</sup>Department of Urology, National Cancer Center/National Clinical Research Center for Cancer/Cancer Hospital, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing, China

### DESCRIPTION

Due to the long-term uncomfortable symptoms such as the lower abdomen and the lack of clear causes of chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS), the treatment of CP/CPPS has become the focus and difficulty of research. To make matters worse, the traditional treatment methods including antibacterials, alpha-blockers, anti-inflammatory medications, hormonal therapy and even physical therapy, are not effective, and the side effects of long-term use are relatively large, which cause a great impact on the physiology and psychology of patients [1]. Most recently, phytotherapy has attracted people's attention owing to its little adverse effect, high acceptance and improving the sign and symptoms than other traditional therapies. Therefore, it is necessary to introduce the achievements of our research on phytotherapy in the treatment of chronic prostatitis in recent years and the next research direction.

Quercetin, a polyphenolic bioflavonoid commonly found in red wine, green tea, and onions, may have antioxidant and anti-inflammatory properties. We first found that quercetin has a certain effect on prostate cancer, and the article was published in the journal *Carcinogenesis* [2]. Then we first reported the mechanism of quercetin on CP/CPPS was reported using a novel rat model, which lays an important theoretical foundation for quercetin in clinical treatment of CP/CPPS. Specifically speaking in the, quercetin has specific protective effect on CP/CPPS, which is mediated by anti-inflammation, anti-oxidation, and at least partly through NF- $\kappa$ B and MAPK signaling pathways [3]. A clinical trial of quercetin in the treatment of CP/CPPS was reported. It was found that quercetin could significantly improve NIH-CPSI scores and patients' quality of life compared with placebo group [4]. Recently, we have been further studying the metabolites of quercetin, studying the specific components of quercetin, promoting clinical trials and transforming quercetin into clinical drugs.

Lycopene is a carotenoid widely distributed in tomato, pink grapefruit, pomegranate, and watermelon, which also possesses a potent antioxidant capacity. We also first report about the possible mechanism of LYC in treating CP/CPPS according to the available literature. In particular, lycopene exerts potent anti-CP/CPPS effects

through alleviating inflammatory response and oxidative stress, which is probably attributed to the interaction of NF- $\kappa$ B, MAPKs, and Nrf2 signaling pathways in rats [5]. At present, we are studying the specific signal pathways between the NF- $\kappa$ B, the MAPKs, the Nrf2 signaling pathways and we believe that there will be a final result in the near future. Moreover, our recent study found that lycopene combined with quercetin was more effective in the treatment of CP/CPPS, which corresponding article has just been published in the *National Journal of Andrology in China*. In addition, we are about to launch a clinical trial of lycopene in the treatment of CP/CPPS to further confirm its efficacy.

Phytotherapy is a new trend in the treatment of CP/CPPS. We are looking forward to be publishing the latest research results of quercetin and lycopene in this area to the near in future, and finally hope that these plant preparations can be converted into clinical drugs for the benefit of patients with CP/CPPS.

### REFERENCES

1. Magistro G, Wagenlehner FM, Grabe M, Weidner W, Stief CG, Nickel JC. Contemporary Management of Chronic Prostatitis/Chronic Pelvic Pain Syndrome. *Eur Urol*. 2016; 69(2):286-97.
2. Xing N, Chen Y, Mitchell SH, Young CY. Quercetin inhibits the expression and function of the androgen receptor in LNCaP prostate cancer cells. *Carcinogenesis*. 2001; 22(3):409-414.
3. Meng LQ, Yang FY, Wang MS, Shi BK, Chen DX, Chen D, et al. Quercetin protects against chronic prostatitis in rat model through NF- $\kappa$ B and MAPK signaling pathways. *Prostate*. 2018; 78(11):790-800.
4. Shoskes DA, Zeitlin SI, Shahed A, Rajfer J. Quercetin in men with category III chronic prostatitis: a preliminary prospective, double-blind, placebo-controlled trial. *Urology*. 1999; 54(6):960-963.
5. Zhao Q, Yang F, Meng L, Chen D, Wang W, Lu X, et al. Lycopene attenuates chronic prostatitis/chronic pelvic pain syndrome by inhibiting oxidative stress and inflammation via the interaction of NF- $\kappa$ B, MAPKs, and Nrf2 signaling pathways in rats. *Andrology*. 2020; 8(3):747-755.

**Correspondence to:** Nianzeng Xing, Department of Urology, National Cancer Center/National Clinical Research Center for Cancer/Cancer Hospital, Chinese Academy of Medical Sciences and Peking Union Medical College, 100021, Beijing, China, Email: xingnianzeng@126.com

**Received:** April 7, 2021; **Accepted:** April 21, 2021; **Published:** April 28, 2021

**Citation:** Zhao Q, Xing N (2021) Short Communication on the Phytotherapy in Chronic Prostatitis/Chronic Pelvic Pain Syndrome in Our Research Center. *Andrology*. 10:221.

**Copyright:** © 2021 Zhao Q, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.