

# Clinical Characteristics of Prostate Cancer in Advanced Stage and Its Treatment by Chinese and Western Medicine

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Prostate cancer (Pca) is a common malignant tumor in elderly men, with by the higher rates in the Europe and America<sup>[1]</sup>. There has been obvious increase in the incidence of prostate cancer in China recently. It has been reported that the incidence of prostate cancer was only 1.71/100000 in China in 1993, But in 1997, the incidence was 2.0/ 100000, and in 2000 the number reached to 4.55/100000<sup>[2]</sup>.

Prostate cancer has obvious features of strong tissue invasion and is prone to metastasis in the early stage. Many patients lie in advanced stage (T<sub>3-4</sub> stage) when diagnosed definitely. Therefore, the treatment of prostate cancer in advanced stage has become an emphasis in the fields.

## Clinical Characteristics of Prostate Cancer

### Metastasis-prone in Early Stage

The metastasis of prostate carcinoma often involves skeleton, obturator lymph nodes and pelvic cavity, sometimes spreading to other organs such as liver, lung and adrenal gland etc. Cancer metastasis frequently reflects corresponding clinical symptoms at the same time.

### Various Clinical Symptoms

There are no visible clinical symptoms in prostate cancer of earlier period. Following by the progression of this disease, various clinical symptoms will be showed: (1) lower urinary obstruction symptoms: when tumor invades the urinary tract and the bladder neck, urinary frequency may occur, and even acute urine retention, hematuria, urine incontinence may occur in severe patients; (2) metastatic symptoms: When the prostate cancer transfers to bones, it may manifest as bone ache, pathological fracture, anaemia, immune suppression and so on; (3) invasion symptoms: When it invades seminal vesicle, it may result in low back pain, didymalgia, and painful ejaculation. When it invades the ejaculatory duct, and hydronephrosis when it invades the ureters etc<sup>[3]</sup>.

### No Good Effect with Endocrine Therapy

Endocrine therapy is one of the main treatments for prostate cancer in advanced stage at present<sup>[2]</sup>. In the beginning, endocrine therapy is effective to majority patients. However, 14-30 months later, almost all patients will develop into hormone-independent prostate cancer and even continue to develop into hormone-refractory prostate cancer. For these patients, there is no good effect with endocrine therapy. It is short of good treatments for hormone-independent prostate cancer now.

### TCM Therapy for Prostate Cancer in Advanced Stage

#### Superiorities of TCM Therapy for Prostate Cancer in Advanced Stage

In general, major patients with prostate cancer turn to TCM therapy in the middle-late period. They have extensive metastasis of bones and lymph nodes. Besides, most of them have received surgery, endocrine therapy, chemotherapy and radiotherapy. At this time, it is impossible to kill tumor lesions using any treatment means. The main curative purpose is not to kill cancer cell, but to relieve patients' pain, improve the quality of life and lengthen their life span at this time. TCM therapy for prostate cancer (T<sub>3-4</sub> stage) has the superiorities of enhancing the vital energy, boosting life quality, expanding the life span and reducing side effect of hormonal therapy, and reduce the complications<sup>[4]</sup>.

## Current Situation and Characteristics of Clinical Efficacy of TCM Therapy on Prostate Cancer

Clinical condition of TCM therapy: it is generally held that Chinese herb is applied to treat prostate cancer in the late stage, which is recognized by major urological doctors in China.

In China, major prostate cancer patients are in advanced stage when diagnosed. TCM therapy is available to those patients owing to its general regulating, especially for hormonal independent and hormonal refractory prostate cancer.

We have applied Qianlie Xiaozheng decoction (a Chinese decoction formulated based on the principle of strengthening the body resistance and removing toxicity, with the basic formulation: *Semen Coicis*, honey-fried *Astragalus membranaceus* (Fisch.) Bunge, *Rhizoma Polygonati Odorati*, *Oldenlandia diffusa*, *Bulbus Fritillariae Thunbergii*, *Dulband*, *polyporus*) to treat hormonal independent prostate cancer on the basis of routine endocrine therapy. Clinical study has found that Qianlie Xiaozheng Decoction can reduce prostate specific antigen (PSA) level or inhibit the increment of PSA, ease clinical symptoms and improve the quality of life. The survival quality score has been meliorated by 47.05%, the Karnofsky score has been improved by 64.7%<sup>[5]</sup>. Prof. CHEN zhi-qiang treated hormonal independent prostate cancer patients by applying the principle of strengthening body resistance and restraining tumor. It was found that the method can delay the progression of prostate cancer, decrease the velocity of osseous metastasis and improve the patients' quality of life<sup>[6]</sup>.

Curative characteristics of TCM therapy: TCM therapy for prostate cancer in advanced stage has the characteristics of regulating the whole body. That is to say, TCM treatment is adopted based on differentiation of symptoms and signs. Its aim is to enhance clinical symptoms and boost the quality of life.

Clinical use in detail: heat-clearing and detoxicating drugs, dampness eliminating and blood circulation promoting drugs are used to resist cancer cell, and elevate immune capacities.

(1) Frequently used Chinese herbs: *Dragon Mallow*, *Herba Solani Lyrati*, *Oldenlandia diffusa*, *Barbed stullcap*, *Semen Coicis*, *Bulbus Fritillariae Thunbergii*, *Dulband*, *Talcum*, *Polyporus* and so on.

(2) Adding or subtracting herbs based on differentiation of symptoms and signs: when with fatigue, *Radix Astragali* and *Radix Pseudostellariae* were added; when sleepless, *Radix Polygalae*, *Semen Zizyphi spinosae*, and *Caulis Polygoni Multiflori* were added; when with anorexia, *Fructus Crataegi* and *massa medicata fermentata* were added; when nausea, adding *Rhizoma Zingiberis recens* and *Caulis Bombusae in Taeniam* were added; when with bone ache, *rhizomacorydalis* and *Fructus Anisi Stellati* were added; when with edema in lower extremities, *Herba Lycopi* and *Semen Phaseoli* were added; when with hectic fever, *Fructus Ligustri Lucidi* and *Herba Ecliptae* were added; when night sweat, *Fructus Tritici levis* were added; when with palpitation, *Bulbus Allii macrostemi*, *Fructus Ponciri Trifoliatae* and *Rhizoma Zingiberis recens* were added; when having difficulty in micturition, *Radix Cyathulae*, *Semen Malvae* and *Folium Phyllostachydis henonis* were added.

(3) Deficiency of qi and yin often appear after radiotherapy and chemotherapy. At this time, drugs for replenishing qi and nourishing yin are applied such as *Fructus Ligustri Lucidi*, *Herba Ecliptae*, *Radix Astragali*, *Radix Pseudostellariae*, *Rhizoma Dioscoreae*, *Manyflower Solomonseal Rhizome*, *Radix Adenophorae*, *Rhizoma Polygonati Odorati*, *Spatholobus suberectus Dunn* and *Radix Angelicae sinensis* and so on.

(4) Deficiency of both qi and blood usually occur after radical correction. It is important to apply drugs of enriching qi and blood such as *Radix Angelicae sinensis*, *Radix Astragali*, *Radix Pseudostellariae*, *Radix Rehmanniae praeparata*, *Rhizoma Dioscoreae*, *Rhizoma Polygonati*, *Fructus Jujubae* and *Colla Corii Asini*.

## Experimental Evidence for Chinese Herbs Treating Prostate Cancer

It is a hot topic to exploit anti-tumor drugs from plant medicine now. Because Chinese herbs have obtained good effect in the treatment of prostate cancer, mechanisms of Chinese medicine are paid more attention to. We have studied the inhibition mechanism of prostate cancer on the hormonal independent prostate cancer nude mice

by QianlieXiaozheng Decoction *in vivo*. The experimental results indicate that the volume of tumor in nude mice of the large dose group is less than in the negative control group ( $P<0.05$ ) after the 14-day treatment, the inhibitory rate to the tumor growth is 43.2%. It is concluded that there is a certain depressant effect to the tumor tissues transplanted in hormonal independent prostate cancer. We infer that Chinese herbs may work by the way of regulating the immune system<sup>[7~8]</sup>.

It is also reported that Rehshen Huhe decoction (consisting of *Radix Ginseng*, *Semen Juglandi*, *Ganoderma Lucidum*, *glossy Ganoderma*, *Semen Abutili*, *Amptotheca Seed* and *Dragon Mallow* etc.) have inhibitory effect on PC-3 cells proliferation in human body. After stimulation of containing serum for 48-h and 72-h, the PC-3 cell shrank to different degrees showing inhibitory effect on cells' proliferation<sup>[9]</sup>. These study offer experimental evidence for Chinese herbs in treating prostate cancer. Further research of Chinese herbs treating prostate cancer will be continuously conducted.

#### Attentions of Chinese herbs in Treating Prostate Cancer

(1) Opportunity: Based on previous study, it has been found that Chinese herbs can improve clinical symptoms due to castrated operation and anti-androgen drug treatment, and delay the period towards hormone independent prostate cancer. Meanwhile, it was also found that Chinese medicine has good effect of adjusting internal environment and inhibiting tumor cells in early stage of prostate cancer. So we don't neglect the therapeutic effects of TCM in the therapy of prostate cancer and we should apply Chinese herbs to treat prostate cancer as early as possible.

(2) Care of Chinese herbs of invigorating the kidney: The symptoms of deficiency in vital essence often appear in late stage of prostate cancer. It is necessary to apply tonic medicine during the therapeutic course. However, we don't ignore that androgenic hormone plays an important role in the origin and evolution. It is reported that some herbs of invigorating the Shen has androgen-like actions, such as *Cornu Cervi pantotrichum*, *Radix Ginseng*, *Cordyceps*, *Herba Epimedii*, and *Herba Cistanches*<sup>[10]</sup>. So we should avoid using them in hormone dependent period of prostate cancer.

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