Prostate Cancer

Prostatic carcinoma is a disease found primarily in aged male patients. The incidence in Europe and America is markedly higher than in Asia or Africa. Other than skin cancer, prostate cancer is the most common cancer in American men. The latest American Cancer Society estimates for prostate cancer in the United States are for 2012:

About 241,740 new cases of prostate cancer will be diagnosed
About 28,170 men will die of prostate cancer
About 1 man in 6 will be diagnosed with prostate cancer during his lifetime.

Prostate cancer occurs mainly in older men. Nearly two thirds are diagnosed in men aged 65 or older, and it is rare before age 40. The average age at the time of diagnosis is about 67.

Prostate cancer is the second leading cause of cancer death in American men, behind only lung cancer. About 1 man in 36 will die of prostate cancer, while it is only 0.482 in 10,000 in China. Latent prostatic carcinoma is asymptomatic, and is discovered only after autopsy, along with the cause of death. The ratio of asymptomatic and symptomatic patients is 2 to 5. The incidence peaks between the ages of seventy to ninety years. However, the mortality rate of 1.0/105 PY and mortality-to-incidence rate ratio (MR/IR ratio) of prostate cancer in China was found to be higher than the average in Asia and much higher than that in North America. These data indicate that in China most prostate cancers were in the advanced stages at the time of diagnosis, and that patients had a short survival time thereafter. In 2004, Stamey et al. reported a retrospective American study of prostate cancer for the years 1983–2003. It was shown that most cases of prostate cancer detected by prostate-specific antigen (PSA) screening were in the advanced stage at the start of this 20-year period. These early follow-up data are quite similar to the results obtained from mass PSA screening of elderly men in Changchun, China. However, after the American programs for early diagnosis and treatment of prostate cancer were accepted, tumours were diagnosed at earlier stages.

The cause of this neoplasm is not clear, but is believed to be a family tendency. Married males have a higher rate of incidence than non-married males. It is believed the pathogenesis is correlated to an imbalance of estrogen-androgen. Androgen is possibly the factor promoting development and growth of prostatic carcinoma. In TCM, it is believed the kidney Qi deficiency and kidney Yin insufficiency in senility, cause the prostatic carcinoma, 97% of prostatic carcinoma belong to adenocarcinoma, the remaining are latent squamous carcinoma. 30% to 40% of the patients have metastases when first consulting a physicians. The metastasis penetrates the capsule and spreads locally, invading seminal vesicle, urinary bladder, spermatic duct and intrapelvic tissue, or through lymph and blood vessels, disseminating in the entire body. 60% to 70% are metastasis to bone, primarily to the pelvic bone, lumbar vertebrae, femur bone and ribs, or extending to visceral organs, chiefly to the lungs, then liven pleura, kidney and brain.

1. Clinical Manifestation

Due to the direct compression of the urethra by the neoplasm, urinating becomes difficulty. In the beginning there is polyuria and nocturia. The flow of urine then become slight, and the course of urination is prolonged, followed by a constant urge to urinate (aschetoresis), or by posturination dipping. When the urethra is aggravated, chronic urinary retention, or occasionally acute retention occurs, sometimes with hematuria.

As the neoplasm spreads to nearby and remote areas, metastatic regional pain appears. The most common are
lumbodorsal pain, or ischiac neuralgia, which radiates to rectum and perineum, then spreads to long bone yielding pathological fracture; edema of lower limbs occurs when the vena cava is compressed. Invasion of rectum is manifested as irritation in the rectum.

Due to the consumption of the neoplasm and the suffering of the patient, which develops in advanced stage, when severe Yin-Yang imbalance occurs, manifested as thirst, dry tongue, listlessness, insomnia, constipation, anorexia, emaciation, anemia, hypoalbuminemia, or renal failure syndrome are experienced.

2. Diagnosis

2.1 Anal Digital Palpation

A simple and convenient method. Over 90% of prostatic carcinoma can be detected by anal digital palpation. In early stage, a hard nodule is palpated at a specific location in the prostate gland, or scattered medium-firm nodules are palpated in both sides of gland. As the tumor grows, a marked hard and uneven prominence is observed on the affected side, which sometimes invades the bilateral sides. The tumor is fixed, in advanced stage and compresses the rectum's lumen, infiltrates, and ulcerates the rectum, and invades the fundus trigone of the bladder. When the seminal vesicle is involved, a cordlike hard mass is palpable extending to the bilateral pelvic cavity.

2.2 Laboratory Findings

2.2.1 Serum Acid Phosphatase Determination: This enzyme originates mainly in the epithelium of prostate gland and increases markedly after cancelation. As the neoplasm does not invade the capsule, the enzyme does not enter the bloodstream, and checking the blood does not expose the increase of acid phosphatase. When the neoplastic lesion breaks through the capsule and spreads locally or by metastasis, large amounts of phosphatases enter the bloodstream, elevating the serum level greatly. The level decreases after treatment, which indicates improvement. If it increases again, it indicates a relapse or an irritation. Therefore, marked escalation of acid phosphatase indicates metastasis of prostatic carcinoma. The normal value is 4-5 KA u%, but the acid phosphatase of one third of prostatic carcinoma patients is also normal, and most of these patients have low differentiated adenocarcinoma. Increase of acid phosphatase also appear in prostatic infarction, nodular hyperplasia, urine retention, or massage of normal (restate gland I and most be differentiated from prostate carcinoma.

2.2.2 The Determination of Alkaline Phosphatase: In the metastasis of prostatic carcinoma to bone, large amounts of alkaline phosphatase enter the blood, and two thirds of the patient's levels are increased. The normal value is 5-14 KA u%.

Serum protein electrophoresis, plasma testosterone, lactic dehydrogenase isoenzyme and urine dopamine determination are valuable to some extent as reference in establishing a diagnosis.

2.3 Cytologic examination of prostatic massage

It fluid shows the positivity of cancer cells is more than 90%.

2.4 X-ray Investigation

The pelvis, lumbar vertebra, and femur X-ray observation are the key links of investigation. Disappearance of bone trabecule is a characteristic feature of metastasis to bone of prostatic carcinoma patients. There are two types: One is osteoblastic type; bone substance has not been destroyed, a few dense sclerotic islets of bone tissue are frequently found; the other is osteolytic type, in which the bone substance is destroyed as revealed multiple round areas of destruction.

2.5 B-ultrasonography
The size of neoplasm, whether the capsul is broken through, and adhesion with surrounding viscera as well as metastasis can be observed. If it is prostatic carcinoma, most patients will have a strong echo light beam.

3. Differential Diagnosis

3.1 Hyperplasia of Prostate

It is difficult to differentiate prostatic carcinoma from hyperplasia, especially from benign nodular prostatic hyperplasia. The benign hyperplasia is mostly symmetric, tenacious in character, smooth, with a shallow flat central groove, clear margins and is movable.

3.2 Prostatolith

Hard to differentiate because the prostatolith is often accompanied by cancer, and shadow or lithiasis appears in X-ray film.

3.3 Prostatic Tuberculosis

Often complicated by tuberculosis of epididymis or other organs, and anti-cancer treatment is effective. Differentiation can be established by biopsy when necessary.

3.4 Chronic Prostatitis

Prostatic gland is enlarged, firm in character, symmetric, with a central groove, pus cells in succus prostaticus increase.

4. Clinical Staging

stage I: Tumor is limited within the body of prostate gland,
stage II: Prostatic capsule has been infiltrated by tumor but without other metastasis.
stage III: With no metastatic lesions but infiltration of seminal vesicle and cervix vesicae.
stage IV: With metastasis of lymph node, bone or other organs.

5. Treatment

5.1 Surgery

5.1.1 Treatment of Primary Lesion by Surgery: Total prostatectomy is indicated for stage 1, is seldom seen clinically; Stage II, the improved radical operation for prostatic carcinoma is suitable, while palliative surgery is adopted for cases of stage III or later. The surgery should be determined according to condition of the patient. TCM and WM treatment is given prior to surgery when the patient is weak and there are complications. Surgery should be carefully considered and adopted cautiously for cases of late stage patients in general poor condition. When obstruction of ureter exists, cystostomy carried out to remove the obstacle prior to surgery.

5.1.2 Castration: Excises the testis to reduce the contributing action of androgen to prostatic carcinoma cell proliferation.

5.2 Endocrinolherapy

Estrogen is considered an effective remedy for treating prostatic carcinoma since the discovery of androgen. It has the function of promoting prostatic carcinoma cell proliferation. Application of allopathy of estrogen produces atrophy of prostatic gland and reduces its secretion. This method is used at any stage of the disease, whether early or late, or if other treatments have been used or not. It can relieve pain, improve the appetite, recover the body strength, shrink the size of tumor and reduce the add phosphatase Drug often used is stilbcstrol 3 to 8 mg per os per day. It was recently reported that 1 mg per day is enough for treatment, and as effective as 5mg per day. Taking the drug orally often causes stimulation of gastrointestinal mucosa and appearance of anorexia and upper abdominal
distress. This can be avoided by changing the method of administration to intramuscular injection, with Ethinyl estradiol 1 to 3mg per os pa day or 80 to 200mg IM per day. Spironolactone or furosemide are used for prevention of hyperhydropexia. A preparation of acetylsalicylic acid is given for prevention of intravascular platelet aggregation. TCM Sijunzi Decoction or Xiangsha Liujunzi Decoction are administered in combination for preventing or treating gastrointestinal reaction.

5.3 Radiotherapy

Indicated for cases: with tumor localized in the prostatic gland or intracapsular neoplasm; when neoplasm invades only the surrounding tissue without remote metastasis; if local or general conditions are unsuitable for surgery. The 5 year curative rate for patients with a tumor localized in the prostate gland reaches 61 to 75%, and only 20% to 25% for those with metastasis beyond the gland.

5.4 Chemotherapy

Because it was confirmed in recent years that endocrino-therapy gives relief to symptoms and does not prolong the patient's life span, chemotherapy is now again being used as an important treatment for prostatic carcinoma. Remedies often used are Cydophsphamide, cisplatinum aminochloride, 5-FU, Adriamydn, mitomycin.

5.4.1 AP Regimen: Adriamydn 50 to 60mg IV, cis-platinum aminochloride 50 to 60mg IV can be given the same day or in two days. The program is repeated every 4 weeks. The time and number of therapeutic courses are adopted according to the patient's condition.

5.4.2 AMF Regimen:
Adriamycin 50mg IV on the 1st day.
Mitomycin l0mg IV on the 1st day.
5-fluorouracil 750mg IV on the 1st and 2nd day.

Above program is repeated in 3 weeks. More can be used when it proves effective. If severe side reactions appear, dosage should be reduced. If symptoms do not improve or be come worse, immediate withdrawal of this treatment should be implemented.

5.5 Cryotherapy

A special probe for liquid nitrogen refrigeration through the ureter is brought to the location of prostate gland. The area is refrigerated to about 180 °C, to induce neoplasm necrosis. This method is indicated for urinary obstruction, bleeding or pain caused by tumor.

5.6 TCM Therapy According to Syndrome Differentiation and Typing

TCM regards the pathogenesis of prostatic carcinoma with asthenia of kidney Qi and insufficiency of kidney Yang as due to the senility of patient The treatment is based on Syndrome Differentiation with drugs for nourishing Yin and tonifying the Kidney.

5.6.1 Asthenia of Kidney Qi and Nocturia Type: In early stage, neoplasm localized within the capsule.
Main Symptoms: Nocturia, polyuria with thready stream of urine, lumbago and weakness of lower limbs, low physical strength, at times with an aversion for cold, preference for warmth, dry mouth but preferring not to drink, pale, pale red, or pale purple tongue with little white, coating, sunken, thready or thready rapid pulse.
Therapeutic Principle: Tonifying the Qi and nourishing the kidney, strengthening the Yang and removing the evil fluid.

 Prescription:

Radix Astragali  18g  
Fructus Psorateae  12g  
Fructus alpiniae Oxyphyllae  12g  
Cortex Moutan  12g  
Poria  12g  
Fructus Lycii  12g  
Fructus Ligustici Lucidi  15g  
Herba Epimedi  15g  
Rhizoma Polygonati  12g  
Radix Codonopsis  15g  
Rhizoma Alismatis  10g  
Rhizoma Dioscoreae  12g  
Radix Rehmanniae Preparata  16g  
Radix Pseudostellariae  10g  
Radix Ophiopogonis  3g  
Rhizoma Atractylodis Macrocephalae  10g  
Radix Glycyrrhizae  3g  

5.6.2 Accumulation of Dampness and Heat with Urinary Sporadic Obstruction Type: Development of tumor causes enlargement of prostatic gland and compression of urethra, manifested by sporadic urination.

Main Symptoms: Sporadic thready stream of urine, asthenia of urination or possible urinary obstruction, lower abdominal fullness, dry stool or constipation, lumbago, dry and bitter sensation in mouth, red or dark purple tongue with yellow greasy coating, slippery rapid or thready taut pulse.

Therapeutic Principle: Clearing up the dampness and heat, resolving the mass and diuresis.

Prescription:

Semen Coicis  30g  
Herba Artemisiae Soopariae  15g  
Radix Glycyrrhizae  6g  
Herba Dimathi  15g  
Spora Lygodii  15g  
Rhizoma Sparganii  12g  
Rhizoma Curcumae  12g  
Radix Salviae Miltiorrhizae  15g  
Radix Angelicae Sinensis  9g  
Radix Paeoniae Rubra  10g  
Semen Persicae  9g  
Squama Manis (baked)  12g  
Poria  12g
Polyporus 12g
Rhizoma Atractylodis Macrocephalae 10g
Radix Pseudostellariae 15g

Add or subtract drugs according to existing symptoms.

Stilbestrol is taken at the same time, orally or by injection. If urination is still difficult and urine still retained in the bladder, urethral catheterization or cystotomy should be implemented.

5.6.3 Internal Retention of Stasis and Toxin, Spread of Tumor Toxin Type Occurs in stage III or later, if the tumor invades the bones by local and remote metastasis, when side effects of chemotherapy and radiotherapy appear or there is a relapse after remission.

Main Symptoms: Pain in back, waist, bone or joints, is severe and intolerable. There is difficulty in movement, bradyuria or urinary stuttering, lower abdominal fullness, dry mouth and tongue, restlessness, fever, constipation or frequent bowel movements with tenesmus. Crimson, dark purple or pale red tongue with or without yellow coating. Thready, rapid, or thin taut pulse.

Therapeutic Principle: Detoxication, resolving the stasis, strengthening the body’s resistance and inhibiting cancer.

Prescription:

Semen Coicis 30g
Rhizoma Gynostemmatis Pentaphylli 15g
Spora Lygodii 15g
Flos Lonicerae 9g
Polyporus 15g
Poria 12g
Rhizoma Atractylodis Macrocephalae 12g
Radix Glycyrrhizae 3g
Radix Salviae Miltiorrhizae 15g
Rhizoma Curcumae 12g
Radix Pseudostellariae 15g
Radix Ophiopogonis 10g
Radix Panacis Quinquefolii 6g
Herba Solanii Lyrati (Boiled separately) 20g
Radix Glehniae 10g

Add or subtract drugs according to existing symptoms.

Ingest indometacin 25 to 50mgm gastrospine 3 tab. diazepan 2.5gm and vitamin K4 8gm, 1 to 3 times per day, after meals. 4mg injected intramuscularly each day and stilbestrol 4mg im 1 or 2 times per day.

5.6.4 Dominant Evil Over Weakened Body Resistance, Deficiency of Qi and Yin Type: In advanced stage, manifests cachexia, systemic hypofunction and in which the neoplasm develops progressively.

Main Symptoms: Fatigue and weakness, anemia, emaciation. Sallow complexion, lumbago and pentalgia, dyspnea during exertion, bradyuria, anorexia, confined to bed, bitter taste or dry mouth, no desire for liquids. Pale, deep, or crimson purple tongue, the tongue proper shortened in severe cases, deep, thready and powerless or thready taut pulse.

Therapeutic Principle: Tonify the Qi and Mood, strengthen body resistance and inhibit the cancer.
Prescription:

Radix Pseudostellariae 15g
Radix Glehniae 10g
Poria 12g
Radix Ophiopogonis 9g
Fructus Lycii 12g
Radix Astragali 15g
Cortex Moutan 9g
Carapax et Plastrum Testudnis 10g
Carapax Trionycis 12g
Rhiaoma Polygonati 12g
Placenta Hominis 15g
Endothelium Corncum Gigeriae Galli 9g
Fructus Hordei Germinatus 15g
Rhizoma Atractylodis Macrocephalae 12g
Radix Ginseng (Boiled Separately) 6g

Add or subtract drugs according to existing symptoms, for pain, give Western medicine as in type (3), combined with adjuvant treatment

5.7 Symptomatic Treatment of Combined TCM and WM

Symptoms not apparent and in early stage. As it progresses to advanced stage, patients condition deteriorates rapidly. When acute or chronic retention of urine occurs emergency treatment with TCM and WM, using urethral catheterization or cystotomy as quickly as possible to prevent uremia, and the resulting from renal failure.

6. Prognosis

In the early stage, prostatic carcinoma develops slowly, and patient may remain asymptomatic for many years. When progress of the disease reaches the middle or advanced stage, the condition of patient deteriorates rapidly, due to weakened body resistance to pathogenic factor. There is a significant difference in the statistics of natural survival. Average survival of untreated patient from time of diagnosis, is 31 months. 77% of the cases in stage III, died within 9 months. A small number who had good immunologic functions survived for more than 5 years. Application of combined TCM and WM therapy directed at the pathogenic factors, by nourishing Qi and Yin, tonifying the Kidney, strengthening the body's resistance, enhance the efficacy of therapy, prolongs the patient's life.