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# Prostate Carcinoma

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## INTRODUCTION:

Prostate carcinoma is no stranger to man. When I was in medical school my urology professor said, "If a man lives long enough, he will eventually get prostate cancer. As I reflect on his remarks 22 years ago, I realize the sad truth that his statement represented. I am also upset when I think about the subsequent outcomes that patients will have with this malady. Survival rates for men with prostate cancer in 1995 were no different than they were for men in 1965.(1) A new case of prostate cancer is diagnosed every three minutes in the United States and every 15 minutes a man will die from this disease. (Ibid) In one study it was found while examining prostate glands during autopsies that cancer was found in 80% of men from the ages of 70 to 80 years old. The same research also noted that 40% of men from the ages of 50 to 60, 34% of men from the ages of 40 to 50, and even 27% of men from the ages of 30 to 40 also had microscopic evidence of neoplastic cells.(2) Why, is the question we should be asking ourselves, is this disease occurring one out of every two men?(3) and occurring much earlier than previous generations? The answer seems to be environmental. Consider today that there are more than 70,000 chemicals we are exposed to in our water systems, food supplies and the air that we breathe. In 1991 2.2 billion pounds of pesticides were used on our crops, farms, golf courses and lawns in our general communities. This does not include our continued exposure to fluorinated water, cigarette smoke, car fumes, electro-magnetic radiation, food additives, irradiated food, preservatives and heavy metals. Couple these exposures with dietary improprieties and it will be obvious that significant nutritive deficiencies will occur. (5) Food laden with sugar, refined flour and fats provide fertile ground for the development of this disease. For a comprehensive integrative approach this problem will require the physician and other health care providers to become cognizant of these contributing factors as well as the underlying pathologic process.

## DIAGNOSIS:

It is recommended that all men over 50 years old, although men over 40 years of age would be more appropriate considering the statistics as noted above, have a yearly PSA (Prostatic Specific Antigen). Where there is a question of equivocal results a newer more sensitive test, the Free Prostatic Antigen should be performed. In addition, a rectal palpatory examination of the gland is imperative. Questionable nodules or abnormal PSA's can be further examined by intrarectal ultrasound, and the sine quinone for the diagnosis is a biopsy.

## CONVENTIONAL TREATMENT:

Like all cancer therapy, treatment protocols for prostate cancer depend upon its staging. Stages A and B are localized to the prostate gland and do not extend beyond its capsule. Stage C implies local spread and stage D implies pelvic lymph node involvement or metastatic spread.

The standard treatment options for organ-confined disease include radical prostatectomy, radiotherapy, and watchful waiting. In radical prostatectomy, the entire prostate is excised from the urethra and bladder, which are then reconnected. Overall cure rates are between 60 and 70 percent. However, damage to the urinary sphincter and penile nerves during surgery can result in postoperative urinary incontinence in up to 20 percent of patients and impotence, which increases in frequency depending upon age at time of surgery.

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External beam radiotherapy appears to be as effective in preventing relapse, at least in the first 10 years after treatment, but it can have significant side effects. These include severe bladder irritation in up to 5 percent of patients, rectal inflammation in up to 10 percent, and impotence in up to 50 percent of patients. In addition, because no surgical specimen is obtained, the post-treatment status of the tumor is unknown.

Watchful waiting remains an option, as the life expectancy is similar in men with untreated low-grade prostate cancer and men who are cancer-free. The obvious benefits of watchful waiting are the absence of side effects inherent with surgery or radiation therapy. The clear disadvantage is that if the cancer progresses, only palliative therapies can be used, where the cancer may have once been treatable. In advanced prostate cancer, palliative therapies include hormone deprivation and, in some cases, external beam radiation.

Treatment decisions are often based on the side effects, long-term risks, and financial and emotional costs of the different therapies. In general, young healthy patients are more often encouraged to undergo radical prostatectomy, and older patients are steered toward observation or radiotherapy. The final choice has to be based upon the patient's preference, based on an understanding of the risks and benefits of each treatment option.

DIETARY CONSIDERATIONS:

Prostate cancer seems to be more prevalent in societies whose diets are high in saturated fat. Therefore, reducing the patient's fat content would be important. Fresh organic fruits and vegetables will help replenish anti-oxidant levels and vitamins needed to protect the prostate. Asparagus, high in Asparagine, is especially important for the gland's health.(4) Pumpkin seeds can provide the needed vitamins and minerals such as, zinc, magnesium, phosphorous, iron, calcium, protein, unsaturated fatty acids and Vitamin A and Vitamin B. Pumpkinseed oil has also been shown to decrease edema in the gland. Other foods that can affect the prostate function are coffee and other caffeine products, as well as, alcohol. It is recommended that these foods are eliminated from the diet. Seed foods and dried beans are also good to add into the diet since they have protease inhibition potential. (Ibid) Patient should limit saturated fats along with increasing Omega-3 fatty acids by the addition of either Flax Seed or Marine Lipid Oils. These will help to improve anti-inflammatory pathways and immune boosting eicosanoids. Tomatoes' lycopene content make them an excellent food for improving and preventing prostate carcinoma. Grains and nuts have been recently shown to have a protective effect. Nuts, as well as, breads that contain either flax seed, rye or buckwheat flour are rich in the fiber Lignin which has an effect on hormone sensitive cancers.(5) Prostate cancer growth may also be related to tumor intracellular acidity. I always have my patients undergo a BTA (Biological Terrain Assessment) to determine pH. Patients with prostate cancer will usually exhibit atypical acidic terrain. Correction of this problem with high alkaline, low acidic foods, along with supplementation of green powders or in the case of recalcitrant acidity use sodium bicarbonate. It has been noted that tumeric and curcumin anti-tumor effect.

ALTERNATIVE REGIMENS:

A. Oral - Assuming the patient has the ability to digest and absorb nutrients the following may prove to be helpful:

Herbs:

- Saw Palmetto (Serenoa Repens): an herb that blocks 5-alpha reductase and 3-ketosteroid reductase thereby it decreases the conversion of testosterone to dihydrotestosterone. Dihydrotestosterone is responsible for the prolific changes seen in a prostate.(22)

Dosage: 160 mg TID in BPH but cancer patients often require a much higher dose. Side effects may include GI upset.

- Aged Garlic: S-Allyl-Mercapto-Cysteine is the active ingredient in Aged Garlic and has been shown to significantly reduce prostate cancer.(7)

  Dosage: 50 - 100 mg per day

- Pygeum Africanum: these large 120 -150 foot evergreen trees provide inflammatory relief that may occur in the gland. In combination with Saw Palmetto the effectiveness is far better than either herb used alone.

  Dosage: high dosages of 200 mg a day are needed to be used for neoplasia of the prostate.

- Green Tea: High in Epigallocatechin-3-Gallate has a tumoricidal effect on prostate cancer.

  Dosage: Have patient use liberally.

Vitamins and Minerals:

- Zinc: the most common mineral deficiency in man. It is concentrated in the prostate and important in the prevention and treatment of cancer of the same. Zinc is also needed along with calcium, magnesium, boron, Vitamin D and trace minerals in order to develop peak bone mass. This is especially important if there is bone metastasis.(6)

- Carotenoids: use mixed carotenoids and not just plain Betacarotene. This will include the lycopene and other carotenoids that may have benefit. (20, 21)

  Dosage: up to 200,000 I.U. per day may be required.

- Coenzyme Q10: prostatic specific antigen levels have been affected favorably over a three-month repletion utilizing extremely high doses of this substance.

  Dosage: 600 mg daily

- Vitamin C: in large doses can act as a good anti-oxidant as well as have good anti-tumoricidal capabilities.

  Dosage: up to 14,000 mg a day.

- Proteolytic enzymes: help digest the protein coat that surrounds most cancers. They need to be taken on an empty stomach. Both animal and vegetables enzymes should be used since both differ as to their optimal temperature and acidity for their effectiveness.(8)

- Vitamin D: Incidence of prostate cancer seems to be greater in climates with limited exposure to the sun.(9)

  Dosage: 1000 - 3000 mg of Vitamin D-3 daily.

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- Inositol hexophosphate (IP6): can be used to enhance cellular communication and increase of natural killer cell (NKC) activity. It will also act as an anti-oxidant. Inositol has 6 carbon atoms like glucose. Inositol hexophosphate (Phytic acid) has all 6 carbon atoms occupied by phosphate groups. The exact mechanism of action is not known.(10)

  Dosage: 1 - 2 capsules two times a day.

- B-Complex vitamins (B1, B2, B3, B6, Folic acid, Pantothenic acid): has been shown to inhibit tumors and increase PGE-1.

  Dosage: B-Complex 50 - 100 mg, TID to QID. Note: Urine will become yellow from the riboflavin.

- Selenium: has a significant anti-cancer affect and can increase NKC. It has also been shown to reduce the incidence of prostate cancer. (16) Selenium is plays a role in the synthesis of testosterone and the production of pituitary and adrenal hormones. (17,18).

  Dosage: 200 mcg to 600 mcg a day.

- Mushrooms-Maitake: it is the primary polysaccharide in Beta-D-Glucan, which improves phagocytosis of the macrophages and improves the function of polymorphonuclear leukocytes. The D-fraction is a protein bound polysaccharide compound based on 1,3 and 1,6 Beta Glucans.(19) Note: Acemannan derived from the aloe plant has similar action. (Ibid)

- Mushroom-Reishe and Shitake: both have been shown to improve immune status.

- Modified Citrus Pectin: inhibits prostate cancer cells and increases T-cells.

  Dosage: 5 -15 grams per day.

Other alternatives:

- Shark Liver Oil: Alkylglycerols in this substance can have a potent anti-cancer effect. They have been shown to improve chemotherapy delivery to cells. Thrombocytopenia can also be improved by its use.(12) Note: Shark Liver Oil is high in Vitamin A, Vitamin D and cholesterol content.

  Dosage: 100 mg TID.

- Shark Cartilage: in large doses it is suggested it will prevent angiogenesis. (11) However, the studies thus far are not completely convincing.

  Dosage: 1 gm for every two (2) pounds (lbs) of weight per day.

- Hydrazine sulfate: a substance found in rust protectors and rocket fuel. It can improve inappropriate utilization of glucose in tumors. Hydrazine is best used for catchexic patients only since it is a potential carcinogen.

  Dosage: will depend on patient's weight. Note: however, this acts like an MAO inhibitor and requires strict dietary precautions.

- A combination of three amino acids, Alanine, Glutamic acid and Glycine, have also been suggested to improve prostate function.

  Dosage: Alanine 250 mg, Glutamic acid 250 mg, Glycine 250 mg one capsule of each TID.

B. Intravenous

- Vitamin and Mineral repletion: utilizing vitamin C, B-Complex and minerals one can improve cellular nutrition especially in patients unable to improve frank or marginal nutritive deficiencies with oral supplementation.

  Dosage: can vary widely from practitioner to practitioner, however, note that trace minerals are not compatible with bicarbonate and can create a white precipitate, therefore, give trace minerals as a piggy-back or separate IV

- Chelation: use this therapy when a patient has proven heavy metal toxicity. Heavy metal chelation can improve cellular states and energy production by preventing the attachment of heavy metals to the mitochondria.

  Dosage: refer to the dosage requirements of ACAM (American College for Advancement of Medicine) or GLCCM (Great Lakes College of Complementary Medicine).

- Oxygen therapies: such as hydrogen peroxide or ozone can have tumoricidal effect and can increase cytokine levels. The natural killer cell count and increase in activity of these specialized T-cells can also be expected.

  Dosage: for proper use, refer to the recommendations of the International Board of Oxidative Medicine.

COMPLEMENTARY APPROACHES:

- Parlodel: Hyperprolactinemia has been implicated in increased testosterone levels in the prostate. By decreasing the uptake of testosterone there should be a subsequent decrease in the synthesis of dihydrotestosterone.

- Perillyl alcohol (POH): found in small quantities in the essential oils of lavendin, peppermint, spearmint, sage, cherries and cranberries. This is a powerful chemical therapeutic agent. POH has been shown to increase Mannose-6 Phosphate (insulin like growth factor two receptors, growth factor, beta receptors, decrease Ubiquinone synthesis and enhance phase one and phase two detoxification systems.(13) Note: this substance is undergoing experimental trials presently.

- Total body hypothermia (TBH): currently under investigation by several United States institutions. TBH is used in Mexico. According to my associate Larry Stowe, Ph.D., by heating the blood to 118 degrees Fahrenheit, there will be an increase in the core temperature to 108.5 degrees Fahrenheit. He notes that temperatures above 107 degrees Fahrenheit have a significant tumoricidal effect while increasing natural killer cells. This therapy is particularly helpful with patients with metastatic disease.

- Microwave current: used presently for benign prostatic hyperplasia. Clinics and other parts of the world have used it successfully for prostate cancer confined to the gland.

- Vitamin, mineral and herbal remedies can help reduce the side effects, as well as, improve the effectiveness of conventional treatments such as chemotherapy, radiation and surgical procedures. Please note: Read the cover

story in the International Journal of Integrative Medicine, Volume 1, Number 2, March-April, 1999, titled Adjunctive Nutrition and Phytotherapy in Primary Malignant Brain Tumors. This is an excellent review of potential nutraceuticals for the treatment of chemotherapeutic and radiation side effects.

- Clodronate: a drug not yet approved by the F.D.A. which has been found to inhibit the excess activity of osteoclasts, thereby, allowing the osteoblasts to bring minerals into the formulation of new bone. This drug has been shown to reduce metastatic bone lesions and to reduce bone pain from already existing osseous lesions. Hypercalcemia which often accompanies bone metastasis has also been improved by Clodronate. Presently, patients may only obtain this drug from off-shore (not within the United States) companies.

  Dosage: 800 mg BID.

- Draw lab studies including natural killer cell total and activity. Cytokine levels are also helpful. In cases where there is obvious immune deficiency consider the following:

- AM2: an IV combination of five substances which help with immunomodulation. Often NKC function and interleukin levels can be affected quite favorably.

- Protocols utilizing AM2 will increase Interleukin 2, which may prove to be effective in metastatic patients.

- Tagamet (an H2 blocker): when lab data suggests a high level of suppressor T-cells Tagamet can often be helpful.

  Dosage: 400 - 800 mg H.S. for one month.

- Hormonal treatment:

- Melatonin: improves Interleukin-2 levels and has profound immuno-modulating effects.

- Dehydroepiandrosterone (DHEA): There has been one studied published about an advanced prostate cancer patient who took 200 - 700 mg of DHEA a day resulting in a significant exacerbation of his disease. (14) However, I believe that low blood levels of DHEA should be replaced with low dosages and recognize that this can also increase testosterone levels. Mitigation of possible side effects may be improved by the addition of blocking agents, to stop the re-uptake of testosterone, and the addition of other agents that will prevent conversion to dihydrotestosterone (Parlodel and Saw Palmetto).

INTEGRATIVE APPROACH:

A team is the best way to approach a patient with prostate cancer. Initial diagnostic work-up should be coordinated by the primary health care provider and urologist. Order a metastatic blood profile along with Sed rate, CBC, and a Prostatic Specific Antigen (PSA). Alternative diagnostics should include a BTA (Biological Terrain Assessment), DHEA levels and possibly immune panels as described. The urologist will get the appropriate ultrasounds and biopsy specimens as needed. An oncology consult should also be considered and he/she should order bone scans and/or other metastastic work-up diagnostics as needed for staging. A coordinated plan between the all three health providers is imperative. Prepare the patient by utilizing oral and IV vitamin repletion before, during and after surgical procedures, radiation, chemotherapy or other alternative immuno-modulating treatments, such as, microwave or total body hypothermia. Treat heavy metal intoxication with the proper IV and oral chelating agents. Utilize herbs and compounds to minimize side effects of these treatments. Develop a relationship with a good compounding pharmacist and use delivery systems

for medicines and natraceuticals that are appropriate for the individual. For example, consider using Phenergen in a transdermal formulation in conjunction with an acupressure point for intractable nausea and vomiting that often accompanies chemotherapy. Measure adrenocortical activity. Inappropriate cortisol secretion can weaken the overall immune system so that all repletion efforts may become futile. A simple salivary test measuring morning, noon, afternoon and night time levels of cortisol should be obtained from all patients. Note that DHEA level shall also be incorporated into this test. If adrenal sluggishness is noted in a patient then consider adding soluble adrenal stress fractions (glandulars with vitamins), Siberian Ginseng, and in significantly cortisol depressed patients, oral Cortef should be added to the patient's regimen for three months.

Encourage your patients to exercise to toleration. This will increase the overall body oxygenation and give the patient a sense of well-being. Deal with issues bothering the patient, such as, treatment, long range effects, side effects and prognosis. Make certain that you see the glass half full and encourage patients to do the same. Help patients to believe in their treatment regimen and develop a positive attitude. Change therapies often if you find the current one you are using is not working. The treatment protocols of all doctors involved in the patient's therapy should be coordinated so that there is total synergy. A patient's greatest chance for survival depends on the integrative team approach. Early detection, aggressive alternatives and coordinated conventional therapies are the key to optimal successful outcomes.

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