



# Prostate cancer

**T**he most common cancer in elderly men, prostate cancer depends on male hormones called androgens, particularly testosterone. The usual management of early disease is with surgery and/or radiotherapy. For more advanced or metastasized cases, GnRH (gonadotrophin-releasing hormone) analogues such as buserelin, goserelin and leuprorelin are used to suppress androgen production. Yet, they are also known to cause a worsening of the disease, or 'flare', as they stimulate testosterone production before shutting it down.

To prevent this, antiandrogens like cyproterone acetate and/or flutamide are usually prescribed. However, a common side-effect is impotence (Souhami RL, Moxham J. *Textbook of Medicine, 3rd edn.* London: Churchill Livingstone, 1997: 774).

## Symptoms

Although there may be no symptoms, the usual ones are:

- ❖ painful or burning urination
- ❖ painful ejaculation
- ❖ blood in urine or semen
- ❖ erectile problems
- ❖ stiffness or aches in the hips, low back or thighs
- ❖ weak or interrupted urine flow
- ❖ difficulty starting to urinate
- ❖ difficulty in holding back urine
- ❖ frequent urination, especially at night
- ❖ inability to urinate.

These symptoms, however, are not specific to prostate cancer—*Chlamydia* or respiratory infections can cause them, too, and the last five can also be seen in benign enlargement of the prostate, or 'benign prostatic hyperplasia' (BPH).

To make the diagnosis, there would first be a digital rectal examination (DRE), where the prostate is rectally palpated using a gloved finger. Next is usually a blood test to check levels of prostate-specific antigen (PSA)—which, however, is not very reliable as it produces, on average, a 35-per-cent rate of false-negatives. Reliability is improved markedly if there has been no sexual activity for 48 hours prior to the blood test. Another test measures an enzyme called 'telomerase' in the semen which allows cancer cells to reproduce out of control, as cancer cells always do. Finally, there is the obligatory ultrasound scan.

According to a study of 4000 men by the US National Institutes of Health, male-pattern baldness is associated with a greater risk of prostate cancer. This is because the same testosterone receptors are found on both hair follicles and the prostate (Cancer Epidemiol Biomarkers Prev, 2000; 9: 523-7).

## Supplements

One of the most effective support nutrients for prostate cancer is lycopene, the pigment that makes tomatoes red. It's a potent scavenger of free radicals, and has more

anticancer effects than any other dietary carotene. It is even more powerful when taken with pumpkinseed oil, which improves its absorption (Cancer Res, 1999, 59: 1225-30).

About 80 per cent of the lycopene consumed in the EU countries comes from tomatoes, yet paw-paw (papaya), pink grapefruit, red paprika, strawberries, cranberries, watermelon, pimiento, guava, plums, raspberries, bell pepper, peaches, cherries and apricots are also good sources of this antioxidant—and the riper the better.

Supplementing with lycopene together with alpha-tocopherol (vitamin E) appears to be effective against prostate cancer. When 26 men diagnosed with prostate cancer took either 15 mg of lycopene and vitamin E twice a day or no supplements at all for three weeks, PSA levels decreased by 18 per cent in the supplemented group, but increased by 14 per cent in the controls (Biochem Biophys Res Commun, 1998; 250: 582-5).

If vitamin E levels are already adequate, then 30 mg/day of lycopene should be enough to slow the cancer's growth. Otherwise, I recommend adding vitamin E as well.

Supplementing with soy, omega-3 fatty acids (fish oils) and selenium may also help, as these have all been shown to have protective effects as well as an ability to reduce the progression of established prostate cancer (Cancer Cases Control, 1998; 9: 553-7; Br J Cancer, 1999; 81: 1238-42; Br J Urol, 1998; 81: 730-4).

Other essential supplements in patients who already have prostate cancer are calcium D-glucarate, indole-3-carbinol and ground linseed (also known as flaxseed) oil.

Men who have been prescribed antihormonal drugs should also take extra calcium, and engage in weight-bearing and resistance exercise to prevent osteoporosis.

## Diet and lifestyle

Avoiding tobacco and an excessive intake of alcohol, as well as following a programme of regular exercise have all been associated with reducing the risk of developing prostate cancer.

In fact, there are now so many convincing studies that have linked diet to prostate cancer that some researchers suggest that prostate cancer should perhaps be considered a 'nutritional disease' (Urology, 1997; 50: 840-8).

Dietary factors are also known to cause changes in sex-hormone levels, the body's own detoxification mechanisms and a person's whole antioxidant status in general.

- The bottom line is that prostate-cancer risk increases with:
- ◆ diets that are low in selenium, vitamin E, soya isoflavonoids and lycopene
  - ◆ diets that are high in heterocyclic amines (abundantly found in grilled and broiled meats), saturated fats, and milk and egg products.

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