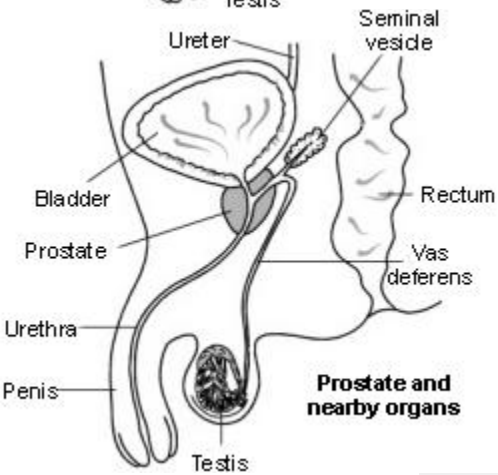


Prostate and nearby organs



Prostate and nearby organs

PROSTATE CANCER

What is the prostate gland?

The prostate gland (just called 'prostate' from now on) is only found in men. It lies just beneath the bladder (see diagram). It is normally about the size of a chestnut.

The urethra (the tube which passes urine from the bladder) runs through the middle of the prostate. The prostate helps to make semen, but most semen is made by the seminal vesicle (another gland nearby).

The prostate gets bigger ('enlarges') gradually after the age of about 50. By the age of 70, about 8 in 10 men have an enlarged prostate. It is common for older men to have urinary symptoms caused by a benign (non-cancerous) enlargement of the prostate. Some men also develop prostate cancer.

What is prostate cancer?

Prostate cancer is a malignant cancer which develops from cells in the prostate gland. It is one of the most common cancers. Most cases develop in men over the age of 65.

What causes prostate cancer?

A cancerous tumour starts from one abnormal cell. The exact reason why a cell becomes cancerous is unclear. It is thought that something damages or alters

certain genes in the cell. This makes the cell abnormal and multiply 'out of control'.

Although the exact cause is unclear, certain 'risk factors' increase the chance that prostate cancer may develop. These include:

- Ageing. Most cases are diagnosed in older men.
- Family history and genetic factors. If your father or brother had prostate cancer at a relatively early age (before they were 60) then you have an increased risk. Prostate cancer is more common in black men than white men. Also, if the type of breast cancer which is linked to a faulty gene runs in your female relatives, then you are at increased risk. These factors point towards a 'faulty gene' which may occur in some men which increases their risk of developing prostate cancer.
- Diet is possibly a risk factor. As with other cancers, a diet high in fats and low in fruit and vegetables may increase the risk.
- Exposure to the metal cadmium may be a risk.

What are the symptoms of prostate cancer?

Prostate cancer is often slowly growing. There may be no symptoms at first, even

for years. As the tumour grows, it may press on and 'irritate' the urethra, or cause a partial blockage to the flow of urine. Symptoms may then develop and can include one or more of the following.

- **Poor stream.** The flow of urine is weaker, and it takes longer to empty your bladder.
- **Hesitancy.** You may have to wait at the toilet for a while before urine starts to flow.
- **Dribbling.** A bit more urine may trickle out and stain your underpants soon after you finish at the toilet.
- **Frequency.** You may pass urine more often than normal.
- **Urgency.** You may have to get to the toilet quickly.
- **Poor Emptying.** You may have a feeling of not quite emptying your bladder.

Note: all the above symptoms are common in older men. Most men who develop the above symptoms do not have prostate cancer but have a benign (non-cancerous) enlargement of the prostate. However, it is best to get any new symptoms checked out by a doctor.

Other symptoms such as pain at the base of the penis or passing blood occasionally occur. (These do not occur with benign prostate enlargement.)

If the cancer spreads to other parts of the body, various other symptoms can develop. The most common site for the cancer to spread is to one or more bones, especially the pelvis, lower spine and hips. Affected bones can become painful and tender. Sometimes the first symptoms to develop are from secondary tumours in bones.

How is prostate cancer diagnosed?

Initial assessment

If a doctor suspects that you may have prostate cancer, he or she will usually:

- Examine the prostate gland. They do this by inserting a gloved finger through the anus into the rectum to feel the back of the prostate gland. A normal feeling prostate does not rule out prostate cancer. An enlarged feeling gland, particularly if it is not smooth to feel, may indicate prostate cancer.
- Do a blood test to measure the level of prostate specific antigen (PSA). PSA is a chemical which is made by both normal and cancerous prostate cells. Basically, the higher the level of PSA, the more likely that you have cancer of the prostate. However, a mild to moderately raised PSA can occur in other conditions. (If you have confirmed prostate cancer the PSA blood test is also used to monitor treatment. If

treatment is working and cancer cells are killed then the level of PSA falls.)

Biopsy - to confirm the diagnosis

A biopsy is when a small sample of tissue is removed from a part of the body. The sample is then examined under the microscope to look for abnormal cells.

To confirm the diagnosis of prostate cancer a small biopsy of the prostate is taken by using a fine needle. This is usually done with the aid of a special ultrasound scanner. The probe of the scanner is about the size and shape of a finger. It is passed through the anus into the rectum to lie behind the prostate. This finds the exact position of the prostate. The doctor then pushes a fine needle into the back of the prostate from within the rectum to obtain the biopsy. Several samples are usually taken from different parts of the prostate.

To biopsy the prostate can be uncomfortable, so local anaesthetic is used to reduce the pain as much as possible.

Assessing the severity and spread of prostate cancer

The severity of the disease is mainly based on three factors - the grade of the cancer cells, the stage of the cancer, and the blood PSA level.

The PSA level

As a general rule, the higher the PSA level in the blood, the greater the number of prostate cancer cells. The PSA level can give a good idea of how quickly the cancer is growing in the prostate or spreading to other parts of the body.

What are the treatment options for prostate cancer?

Treatment options which may be considered include: watchful waiting (no active treatment), surgery, radiotherapy, hormone treatment, and less commonly, chemotherapy. Often a combination of two or more of these treatments are used. The treatments used depend on:

- The cancer itself - its size and stage (whether it has spread), the grade of the cancer cells, the PSA level, AND
- The man with the cancer - your age, your general health, and personal preferences for treatment.

For example, certain types of prostate cancer are confined to the prostate, are slow growing and are unlikely to affect your life expectancy. Some types are more aggressive, more likely to spread and may cause serious illness and lead to death unless treated. The risks and possible side-effects of treatment are another consideration.

You should have a full discussion with a specialist who knows your case. They will be able to give the pros and cons, likely success rate, possible side effects, and other details about the various possible treatment options for your type of cancer.

You should also discuss with your specialist the aims of treatment. For example:

- Treatment may aim to cure the cancer. In particular, the earlier the stage of the cancer, the better the chance of a cure. Treatment may aim to control the cancer. If a cure is not realistic, with treatment it is often possible to limit the growth or spread of the cancer so that it progresses less rapidly. This may keep you free of symptoms for some time.
- Treatment may aim to ease symptoms. Even if a cure is not possible, treatments may be used to reduce the size of a cancer which may ease symptoms such as pain. If a cancer is advanced then you may require treatments such as nutritional supplements, painkillers, or other techniques to help keep you free of pain or other symptoms.

Watchful waiting

In some cases it may be best not to have any active treatment but to see how the cancer develops. This is called 'watchful

waiting'. Various factors are taken into account such as the stage of the cancer, your age, general health, the impact and potential side-effects if treatment were to be used, etc. Watchful waiting may be more appropriate for men where the cancer is not causing much in the way of symptoms, is slow growing, especially in older men. With a watchful waiting approach you will need regular check ups and the decision about treatment can be reviewed at any time.

Surgery

Removing the prostate can be curative if the cancer is in an early stage (confined to the prostate and not spread.) It is a major operation and so tends to be advised more often for younger men whose general health is good, especially if the cancer grade means the cancer is likely to spread in the future. Side-effects such as impotence may occur following surgery to remove the prostate.

Even if the cancer is advanced and a cure is not possible, surgery may still have a place to ease symptoms. For example, a blockage of the flow of urine may be eased by an operation.

Radiotherapy

Radiotherapy is a treatment which uses high energy beams of radiation which are focussed on cancerous tissue. This kills

cancer cells, or stops cancer cells from multiplying.

- Radiotherapy may be used as an alternative to surgery, or may be used in addition to surgery.

Even if the cancer is advanced and a cure is not possible, radiotherapy may still have a place to ease symptoms. For example, radiotherapy may be used to shrink secondary tumours which have spread to bones and are causing pain.

Hormone treatment

Prostate cancer cells need the male hormone called testosterone to grow and multiply well. Testosterone is made in the testes and circulates in the bloodstream. Hormone treatments aim to stop you from making testosterone or to block the effect of testosterone on prostate cancer cells. Hormone treatments don't cure prostate cancer but may greatly slow down the growth of the cancer for a number of years.

The level of testosterone can be reduced by surgery or by drugs.

- Surgery. This involves removing the testes (orchidectomy). Without testes you no longer make testosterone.
- Drugs. Two groups of drugs are available:

- Drugs which work on the pituitary gland. (Your pituitary gland makes a hormone which circulates in the bloodstream to stimulate the testes to make testosterone. These drugs stop your pituitary from making this stimulating hormone.)
- Drugs which block the action of testosterone (anti-androgen drugs).

Hormone treatment may be used in addition to surgery or radiotherapy. It may be used alone in cases where the cancer is more advanced.

Chemotherapy

Chemotherapy is a treatment of cancer by using anti-cancer drugs which kill cancer cells, or stop them from multiplying. Chemotherapy is not used as much as the above treatments for prostate cancer.

What is the prognosis (outlook)?

The outlook for prostate cancer is very variable. Some prostate cancers are slow growing and do not affect life expectancy. On the other hand some are already spread to other parts of the body when they are diagnosed and can lead to death. The response to treatment is also variable. The specialist who knows your case can give more accurate information about your particular outlook, and how well your type

and stage of cancer is likely to respond to treatment.

Screening for prostate cancer

Screening for prostate cancer is controversial. A routine blood test which shows a high PSA *may* indicate that you have prostate cancer. However, there are other causes of a high PSA. Also, many prostate cancers are slow growing and do not cause problems, particularly in older men. Some experts believe that if all men were screened then there may be many men found with a raised PSA level. Many men may then be investigated and treated unnecessarily with all the possible risks and side-effects of the investigations and treatment. Put simply, some people believe that screening for all men may do more harm than good.

Further help and information

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