The Clatterbridge Cancer Centre
NHS Foundation Trust

Hormone therapy for prostate cancer

General information

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A guide for patients and carers

Contents

This information is for patients who are going to receive hormone therapy for prostate cancer

This leaflet will explain:

- What hormone therapy is?
- How hormone therapy works
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- Who to contact when you need advice

What is hormone therapy?

Hormones are natural substances produced by glands to help control growth and function of different parts of the body. The male hormone, testosterone, is produced mainly by the testicles and helps control the development of the male sexual organs including the prostate. Unfortunately, testosterone also stimulates the growth of prostate cancer cells and hormone therapy is a way of blocking this stimulation.

How does hormone therapy work?

Hormone therapy reduces the amount of testosterone available in the body to 'feed' the growth of prostate cancer cells. The shrinkage of the prostate cancer cells occurs wherever they may be, e.g. within the prostate or if they have already spread outside

of the prostate. The PSA level (the blood test which can be used to measure the 'activity' of the cancer) falls whilst on hormone therapy.

The situations when hormone therapy is used are described below. Hormone therapy can be given by different methods:

- **Injections to stop the production of testosterone (LHRH agonists and LHRH antagonists)**

  These injections work by stopping the brain from telling the testicles to make testosterone. Agonists have a stimulatory effect, causing an increase in level of a hormone and antagonists have an inhibitory effect, causing a fall in levels of a hormone. The first injection of a LHRH agonist can cause a rapid rise in the testosterone levels and a short course of hormone tablets (around 3-6 weeks) are prescribed to prevent any problems with this. The injection is given 1-2 weeks after the tablets are started and then every month or every three months. The full course of the tablets should be taken, even after the injection is given. The LHRH antagonists do not cause a flare of testosterone and do not require any hormone tablets to be given.

  Commonly used examples of LHRH agonists include goserelin (Zoladex), leuprorelin (Prostap) and triptorelin (Decapeptyl). Degarelix (Firmagon) is an example of a LHRH antagonist.

- **Tablets to block the effect of testosterone (Antiandrogens)**

  These tablets work by blocking the testosterone from reaching the prostate cancer cells or by blocking the conversion of steroid hormones into testosterone.

  The commonest example is bicalutamide (Casodex). This is used as a short course LHRH analogue injections or as a long term medication alone.

  Other tablets may be used in addition to initial hormone therapy, if this is not controlling the prostate cancer sufficiently (known as 'castrate-resistant' or 'hormone refractory' prostate cancer). Examples are abiraterone (Zytiga) combined with prednisolone or enzalutamide (Xtandi).

- **Surgery to remove the testicles**
  The testicles make 90-95% of the testosterone in the body. The operation removes all, or part of, the testicles and is called an 'orchidectomy'. The hormone effects are permanent.

When is hormone therapy used?

Not all men with prostate cancer require hormone therapy. Your oncology doctor will explain if and why you need it, and also how long you will need it for.

It is used in:

Localised prostate cancer (cancer still within the prostate)

a) With radiotherapy, to shrink the prostate and to make the radiotherapy more effective. The radiotherapy usually starts

three months after the hormone therapy starts. Your oncology doctor will explain how long you should have the hormone therapy for.

b) After a first treatment (e.g. radiotherapy or surgery) has failed

c) If the patient is unwilling or not fit enough for a more intensive treatment (e.g. radiotherapy or surgery)

Locally advanced prostate cancer (cancer has spread just outside the prostate)

a) With radiotherapy, to shrink the prostate and to make the radiotherapy more effective. The radiotherapy usually starts three months after the hormone therapy starts. Your oncology doctor will explain how long you should have the hormone therapy for.

b) As the main treatment itself

c) If the patient is unwilling or not fit enough for a more intensive treatment (e.g. radiotherapy or surgery)

Advanced prostate cancer (cancer has spread outside of the prostate, e.g. to the lymph glands or bones)

- As the main treatment. Treatment is usually lifelong and is usually given continuously. There may be a role to have intermittent therapy, meaning periods off treatment if everything is under control. Men often have to restart the hormone therapy at some point. Unfortunately hormone

therapy cannot cure prostate cancer by itself, and at some point the prostate cancer cells become resistant to the treatment (known as 'castrate-resistant' or 'hormone refractory' prostate cancer). Your oncology doctor will discuss the other treatment options at this stage.

What are the side effects of hormone therapy?

The side effects of hormone therapy are caused by the lack of testosterone in the body. Most men notice some side effects, especially the more common ones, and the impact of the side effects depends on the type of hormone therapy used, the duration of the hormone therapy and the how the individual copes with the treatment. The vast majority of men will complete the prescribed course of hormone therapy but occasionally side effects mean that treatment is stopped. Your oncology doctor will discuss the pros and cons of stopping treatment earlier than planned.
The common and less common side effects are discussed below, along with some information on how to manage them. Details on sources of further information and support groups are given at the end of this leaflet.

General physical effects

Hot flushes and sweats are common. Your oncology doctor may recommend tablets that may help.

Weight gain and loss of muscle bulk is also common. Weight gain can be in the chest (breast) area and be associated with tender/sore nipples. The hormone tablets (antiandrogens) are much more likely to cause these problems than the injections, which sometimes can be prevented by medication or by radiotherapy to the breasts prior to, or shortly after, starting hormone therapy. Resistance exercise (e.g. swimming, weight training) may reduce muscle loss.

Tiredness/fatigue is common. It may be improved by physical exercise, e.g. walking or jogging.

General mental health effects

Some men may complain of difficulty concentrating or remembering things. Mood may be affected with some men noticing they become more irritable, emotional or even feeling depressed. These feelings should be discussed with your oncology doctor or GP. Talking these issues over, e.g. in a support group may help. Sometimes anti-depressants may be prescribed.

Sexual effects

Lack of sex drive (libido) and difficulty getting an erection (impotence or erectile dysfunction) are common. Sexual satisfaction may be reduced. The hormone tablets may cause less erection problems than the injections. You should discuss these problems with your oncology doctor as there are various treatments which may help. Tablets are usually tried first and you may want to be referred to a specialist clinic (erectile dysfunction clinic) if these do not work.

Hormone therapy may affect fertility and men wishing to father children must discuss this with their oncology doctor before starting treatment. Sperm banking may be necessary.

The sexual problems caused by hormone therapy may lead to strain or tension within relationships and men may wish to talk about these problems with a counsellor or other health care professional.

Specific medical effects

These effects may be reversible, if caused by the hormone tablets or injections, especially if only given for a few months. If due to an orchidectomy, the effects cannot be reversed.

Risk of heart disease and diabetes

Hormone therapy, especially longer courses, may increase the risk of heart disease (angina or heart attack) by causing changes in weight, blood pressure, and blood sugar control and cholesterol levels. You may be able to reduce your risk by eating a healthy diet, taking regular exercise, reducing salt intake, not smoking and cutting down on alcohol. Your oncology doctor or GP will monitor your blood pressure, blood sugar and cholesterol.

Bone health

Reducing testosterone levels by the hormone injections or by removing the testicles (orchidectomy) can cause thinning of the bones. If this is severe it is called osteoporosis. This can be measured by a scan called a bone mineral density scan. The risk of osteoporosis can be reduced by lifestyle changes, e.g. healthy diet with enough calcium and vitamin D, exercise, not smoking and cutting down on alcohol. Calcium and Vitamin D supplements may be needed. If the bone thinning is severe, osteoporosis medication or a switch in hormone therapy to the tablets may be necessary. The tablets do not cause thinning of the bones.

Liver health

An uncommon side effect of the hormone tablets (antiandrogens) is liver inflammation with abnormal liver blood tests and the treatment may have to be stopped. Your oncology doctor will tell you if you need the blood tests checking.

Anaemia

Anaemia is common in men taking hormone therapy for a long time. The relationship between the anaemia and fatigue is not straightforward and the anaemia rarely needs treating.

Useful information & websites

The Prostate Cancer Charity
Freephone helpline number: 0800 074 8383
Website www.prostate-cancer.org.uk

Macmillan Cancer Care
Telephone: 0151 482 7722 or 0808 808 000
Website www.macmillan.org.uk

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References for this leaflet can be obtained by telephoning 0151 482 7722.

If you need this leaflet in large print, Braille, audio or different language, please call 0151 482 7722.

If you have a comment, concern, compliment or complaint, please call 0151 482 7927.

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