

HORMONE THERAPY

SIDE EFFECTS – PREVENTION AND TREATMENT

Hormone therapy reduces the amount or effects of male hormone (testosterone). Prostate cancer uses the male hormone to grow. The cancer cells cannot survive if testosterone is not present. However not all cancer cells are affected by hormone therapy. Some can grow even if testosterone is not present. Many normal cells also rely on testosterone to remain healthy. Side effects occur because the lack of testosterone affects normal function.

There are two types of hormone therapy:-

1) LHRH Agonists:- these reduce the amount of testosterone produced by the testis by blocking the release of LH. LH is a hormone produced by the brain that switches on testosterone production in the testis. Common brand names are Zoladex and Lucrin Depot. These are in the form of an injection.

2) Antiandrogens:- these stop testosterone and other male hormones from entering cells. Testosterone levels do not reduce but testosterone cannot get into the cells to act. Common brand names are Cosudex, Eulexin, Androcur, and Anandron. These are in the form of tablets.

SIDE EFFECTS

Not all side effects will occur in every man. Many of them are mild. Some men will have particular problems with one but not another.

* **Hot Flashes:-** This is probably the most common side effect. A person will be undertaking his usual activities and suddenly find he is flushed in the face and perspiring. This is particularly so when a person is stressed, in hot climate, after alcohol and is often more noticeable in younger men. With time often this symptom tends to improve.

* **Decreased Erections:-** Not all men lose their erections as a result of hormone therapy. Young men and very fit men tend not to lose their erections. Many men already have their ability to get an erection affected by another treatment or illness. Most men notice there is less ejaculate fluid and that the penis and testicles tends to shrink whilst on hormone therapy. Once again this may have occurred after another treatment.

* **Decreased Libido:-** Decreased libido means a decreased interest in sex. It is due to the lowering of the testosterone level. It may take up to 6-12 months to return after stopping prolonged hormone use. It is important to remember that libido is different to erections, orgasm and ejaculation.

* **Lethargy:-** Most men feel more tired and don't have as much energy as usual. Some medications e.g Androcur are particularly prone to cause this. However it can be more pronounced in some men with other medications. Some men may also experience lack of concentration.

(2)

* **Breast Enlargement and Tenderness:-** This is also called gynaecomastia. Some men may notice swelling of the area beneath the nipple which can also be tender. It can occur with all hormone therapies however it is often more pronounced when one is on anti-androgen medications.

* **Weight Gain and Loss of Muscle :-** Men on average will gain 2-6 kgs in the first year of hormone therapy. This is usually due to a marked increase in appetite and changes in metabolism. Men may find it difficult to lose the weight. Muscle loss varies from man to man. It does not usually affect how one functions.

* **Hair Loss:-** Loss of body hair is common especially on the chest and arms.

* **Aches and Pains:-** Many men experience general aches and pains. These may be intermittent.

* **Osteoporosis:-** Prolonged use of hormone therapy can lead to osteoporosis (thinning of the bone). This is particularly so if one already has some degree of osteoporosis prior to commencing hormone therapy, those with a strong family history of osteoporosis and very thin men. Other risk factors include smoking, hormone therapy for more than a few years, low dietary calcium and vitamin D, little or no exercise and a high daily intake of alcohol. If one is on hormone treatment for a long period, the things to watch for are back pain, shorter height and fractures that occur for no reason.

* **Depression:-** Some men become quite depressed and emotional whilst on hormone therapy. Sometimes it is due to the fact that they have prostate cancer and the problems it is causing however approximately 10% of men get depressed due to hormone therapy. Symptoms may include difficulty in sleeping and being very "teary". Fortunately it is only a small number of men who experience this.

* **Anaemia:-** This is a reduction in the red blood cells. Most men become slightly anaemic whilst on hormone therapy. Usually it is mild and does not cause any problems.

* **Worsening of Diabetes, Heart and Lung Disease:-** Hormone therapy affects insulin levels in the body and may worsen the control of diabetes. Men with severe lung disease may feel their breathing worsen. This is probably due to weakness of the chest muscles and the mild anaemia which would not normally affect men without lung problems. Cholesterol and triglyceride levels may become elevated especially if these were a problem prior to starting hormone treatment.

* **Liver Damage:-** On rare occasions, the liver can be damaged by many of these medications, especially the anti-androgens.

TESTS YOU SHOULD HAVE PRIOR TO STARTING HORMONE TREATMENT

- * General health check including blood pressure.
- * Blood tests: FBC, Calcium, Albumin, Lipids, 1-25 hydroxy vitamin D, Iron studies.
- * Bone mineral densitometry
- * Plain X-Ray of thoracic and lumbar spine

WHAT CAN BE DONE TO AVOID SIDE EFFECTS

* **Hot Flashes:-** Androcur, oestrogen (patches) and phyto-oestrogen can often stop this side effect. Other medications such as Megestrol acetate and some mild anti-depressants such as Efexor may be helpful. Also acupuncture may be beneficial.

* **Decreased Libido:-** It appears that regular exercise decreases the chance of decreased libido occurring. It tends to occur less with certain groups of drugs e.g anti-androgens.

* **Decreased Erections:-** The use of Viagra, Levitra or Cialis, Vacuum pump or penile injections may help. Anti-androgens instead of LHRH antagonists may minimise the effect on erections by hormone therapy.

* **Decrease in Penis and Testicular Size:-** This may or may not return after stopping the hormones. This will largely depend on how long one has been on hormone therapy.

* **Lethargy:-** Regular exercise often improves this and may even prevent it. This exercise should be a combination of aerobic and resistance exercise. Intermittent hormone therapy as well as avoidance of weight gain also helps. Trying different hormone therapies can decrease this side effect as some medications are particularly prone to cause it.

* **Weight Gain and Loss of Muscle:-** A lot of this can be prevented by regular resistance exercise and a correct diet. The involvement of a Dietician/Nutritionalist and a personal trainer may be helpful. The dietician can assess and make recommendations for weight loss and control. A personal trainer can advise on different exercises that may help.

* **Diet:-** eat a well balanced diet

- limit the amount of fat in your diet
- don't snack
- limit red meat to 3-4 times a week
- tomatoes and broccoli are often recommended
- don't take high doses of Vitamin C
- have enough Vitamin D (800IU per day). Too much vitamin D is harmful
- have enough Calcium (1200-1500mgs per day). You can get this in your diet without taking tablets. Too much Calcium is harmful.

* **Regular Exercise:-**

- aerobic exercise – brisk walking, swimming, cycling
- free weights, weight machines, callisthenics, resistance tubing.
- lift weights in sets of 8-12 repetitions, 2 to 3 sets per exercise
- resistance increase in 2kg increments
- leg extension, calf raises, leg curl, chest press, overhead press, triceps extension and biceps curl
- try to exercise 30-60 minutes 2-3 times per week

* **Breast Enlargement and Tenderness:-** a low dose of radiation therapy to the breast before treatment can prevent it from occurring. The radiation therapy only prevents breast enlargement but not breast tenderness. If breast enlargement is a major side effect and radiation therapy has not helped, then the excess breast tissue can be removed by a minor mastectomy or liposuction.

(4)

* **Osteoporosis:-** to prevent osteoporosis, it has shown that regular exercise particularly resistance exercise as well as maintaining an adequate calcium and vitamin D intake is essential. Osteoporosis can be treated with bisphosphonates (these may be taken either in tablet form or injection) as these drugs help to strengthen the bones.

* **Depression:-** If this occurs, one can change from LHRH agonists to antiandrogens. A mild anti-depressant e.g Cipramil or Avanza may help. Regular exercise is also beneficial. Speak with your GP or Specialist regarding this.

* **Anaemia and Worsening of Diabetes, Heart and Lung Disease:-** Always maintain a healthy diet, regular resistance exercise, weight control and blood tests periodically.

* **Liver Damage:-** It is important to have your liver function checked every 3-6 months. This can be done by a blood test through your GP. If the liver shows signs of being damaged, one can stop the treatment and the liver recovers.

This pamphlet is a guide for men who are on hormone therapy. Should you have any further queries then please speak with your Specialist or GP.

January 2004