Peterborough City Hospital
Department of Urology

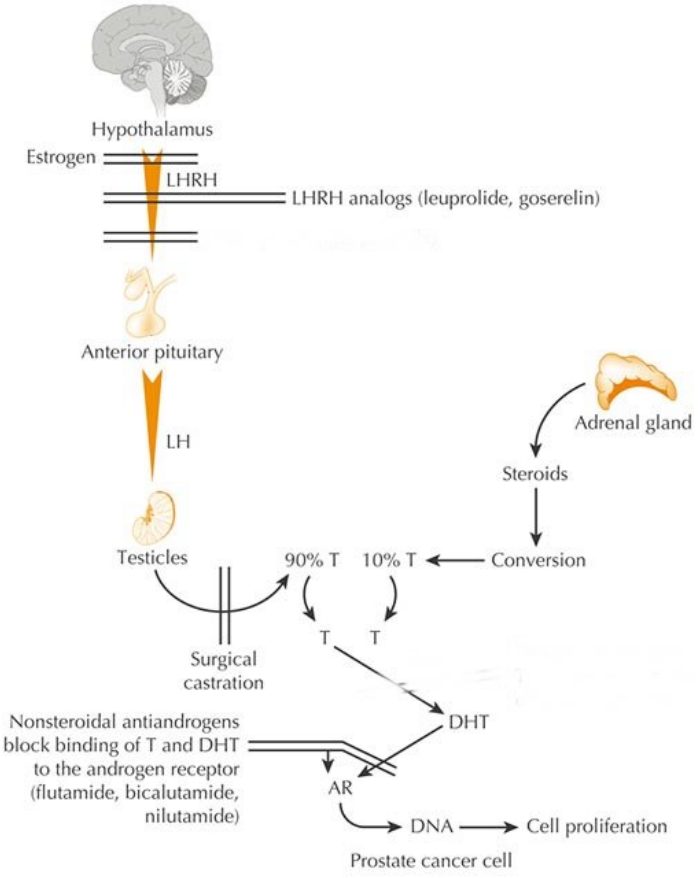
Guidelines for the Shared Care of Patients on hormonal therapy for Prostate Cancer

Hormonal Therapy - How does it work?

Prostate Cancer relies on the presence of the male hormone, Testosterone, for growth. In actual fact Testosterone is converted to a more active form known as Di-hydro-testosterone (DHT).

Hormonal therapies all work by reducing the level of Testosterone in the body to very low limits.

The picture on the right shows how these therapies interfere with DHT Production.



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Urology Cancer Nurse Specialists – Sue Pilcher / Anne Nimmo: Tel 01733 875373 or Bleep 1800

Ways by which Testosterone can be reduced

- Tablets – e.g. cyproterone acetate, flutamide, bicalutamide
- Injections – LHRH agonists (e.g. leuprolide, goserelin)
- An operation to remove the inner part of the testicles

The advantages and disadvantages of each modality are compared below.

Method	**Advantages**	**Disadvantages**
Tablets	Non-invasive (IE no injections or operations required)	• Tablets must be taken up to three times a day for life • Some side effects are common (e.g. tiredness, lethargy, diarrhoea)
Injections	Only needs to be given once a month, or sometimes once every three months	• Sometimes painful to receive the injection • Can develop hot flushes (can be treated)
Operation	Once operation is performed it is likely that no other treatment will be required in the short term - i.e. no tablets or injections	• Requires an admission to hospital for 1-2 days and a general anaesthetic • Possible psychological problems of reduced testicle size after operation • Hot flushes may develop (this is treatable)

Indication for hormonal therapy

1. Localised and locally advanced disease as monotherapy
2. Symptomatic and asymptomatic metastatic disease
3. Short term adjuvant with radiotherapy for high grade tumour or locally advanced disease

Side effects and contra indications of hormonal therapy

Oestrogens are known to carry cardiovascular, thrombotic and gynaecomastia formation. Low dose Aspirin is added as prophylaxis. Anti androgens like CPA are known to have some hepatic toxicity and gastrointestinal side effects. LHRH agonists initially produce a surge in testosterone and therefore a form of tumour flare up which requires androgen cover. Loss of libido and erectile dysfunction is a main concern particularly in relatively young people. Treatment with phosphodiesterase-5 inhibitors may be required.

Hot flushes may affect a large number of patients. This side effect can be treated with low dose Cyproterone Acetate or Stilboestrol. Gynaecomastia and breast pain can be treated with Tamoxifen or prophylactic radiotherapy.

Muscle wasting, increase in body fat, anaemia and decrease in bone minerals are also well known complications and testosterone lowering treatment. Treatment is usually by exercise in addition to calcium and vitamin D if required.

Follow up after hormonal treatment

Regular follow up is required to monitor the treatment response, to detect complications and to intervene at the time of the tumour becoming hormonal resistant. After initiation of hormonal treatment it is recommended that patients are followed up at 3 and 6 month periods with PSA level and subjective assessment in terms of general condition and symptomatic improvement.

Haemoglobin, creatinine and liver function tests monitoring may be required to detect urinary tract obstruction or liver toxicity in particular for patients treated with anti androgens. The rise in the PSA heralds the beginning of the tumour becoming resistant to hormonal treatment and may precede the onset of clinical symptoms by several months. However clinical progression like bone pain with normal PSA level has been reported. An ultrasound scan of the abdomen is required in patients with rising creatinine to assess the kidneys as well as the liver. Examination of the prostate is also recommended to assess local changes.

Patients who show a good response to hormonal treatment follow up could be scheduled for every 6 months afterwards. For disease which does not respond to the initial treatment and those with refractory prostatic carcinoma require individual follow up based on their symptoms and treatment response. Treatment of these cases ideally should be under the care by a specialist in secondary care.

Guidelines for Shared Care Management

Inclusion criteria	• Age >65 • Patients to have good response to treatment and Stable PSA <4 on treatment • Gleason score 7 or less **Or:** • Significant co-morbidity irrespective of age • Limited life expectancy irrespective of age
Exclusion criteria	• Age <65 • Extensive disease with risk of spinal cord compression • Obstructive renal failure requiring intervention Gleason score 8 or higher • Limited or no treatment response
Initial treatment at PCH	• Following diagnosis and further investigation, the first 12 months of treatment will be by the Urology department at PCH • Patients will be referred to primary care after good clinical and biochemical response with PSA reaching a nadir <4 ng/ml and stable below this level.
Follow up in primary care	At 6 monthly intervals • PSA and U&E prior to each assessment visit, LFT for patients on anti-androgens • History taking to include appetite, weight, musculoskeletal pain, weakness or lethargy or other neurological signs of incipient cord compression, progression of urological symptoms, treatment side effects such as hot flushes • General and specific examination including prostatic assessment if indicated • Further investigations as dictated by clinical condition. E.g. Repeat PSA in 6weeks if rise suspected. Consider x-ray / bone scan if localised persistent skeletal pain.
Triggers for referral back into secondary care	For “urgent” (within 2 weeks) referral back to original urologist (NOT via Choose and Book system): • PSA>10 • Rising PSA, particularly if doubles within 6 months • Uncontrolled skeletal or bony pain • Progression of urinary symptoms • Deterioration in liver or renal function

Triggers for immediate referral back into secondary care:	Development of neurological symptoms potentially indicating spinal cord compression • Muscle weakness of lower limbs • Paraesthesiae in lower limbs • Development of urinary or faecal incontinence • "Off legs" **Contact Consultant Urologist or Secretary direct via telephone or Contact either Sue Pilcher or Anne Nimmo (Cancer Nurse Specialists) on bleep 1800**
Treatment of hot flushes associated with hormonal treatment	Cyproterone Acetate as per BNF 50mg once daily orally (See BNF for Guidance and Prescription information)
GP record-keeping	For monitoring and audit purposes, a computer record should be kept to include the following minimum Read Coded information: • PSA value • U&E values • Patient's condition improved/same/worsened • Results to be shared between GPs and secondary care

References

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3. Rana, A., Chisholm, G.D., Rashwan, H.M., Salim, A., Merrick, M.V. & Elton, R.A., 1994, Symptomatology of metastatic prostate cancer: prognostic significance, *British journal of urology*, 73(6), pp. 683-6.
4. Saad, F., Clarke, N. & Colombel, M., 2006, Natural history and treatment of bone complications in prostate cancer, *European urology*, 49(3), pp. 429-40.