Luteinising hormone-releasing hormone (LHRH) agonists in prostate cancer

This briefing focuses on luteinising hormone-releasing hormone (LHRH) agonists. Currently £82 million is spent annually on all LHRH agonists across England. Goserelin and leuprorelin are the two LHRH agonists used primarily in the management of prostate cancer across England. Triptorelin is also used for prostate cancer and has published data to confirm its efficacy.

Additional resources available:

Bulletin Data pack

http://www.prescqipp.info/resources/viewcategory/325-lhrh-analogues

Recommendations

- Engage and establish opinion with local trust urologists on preferred formulary choices. This should take into account dosage intervals, administration, product price, and fees paid for administration. Local decision making may also be affected by local discounts and rebate scheme activity.
- 3 monthly and 6 monthly triptorelin and 3 monthly leuprorelin are the preferred cost effective LHRH agonists for prostate cancer in new patients.
- Switch guidance will need to be agreed by local trust urologists for existing patients and should be considered at the next clinic appointment.
- Use 12 weekly/3 monthly or 6 monthly injections in preference to 4 weekly/ monthly injections to support administration, convenience to the patient and costs.
- Review long term treatment in men with high risk localised prostate cancer. Androgen deprivation therapy may be considered for up to 3 years in this group. Intermittent therapy may be considered.[1]

Savings

Across England, switching goserelin (12 weekly) or leuprorelin (3 monthly) to triptorelin (3 monthly or 6 monthly) could result in a potential annual saving of **£6.8 million or £11,985 per 100,000 patients** (ePACT Oct – Dec 2014).

If leuprorelin was preferred as administration was via a prefilled syringe, there would be an increased cost pressure if switching from triptorelin. Switching goserelin (12 weekly) to leuprorelin (3 monthly) could result in a potential annual saving of **£1.5 million or £2,658 per 100,000 patients** (ePACT Oct – Dec 2014).

Switch guidance will need to be agreed by local trust urologists for existing patients and should be considered, and discussed with the patient, at the next clinic appointment.

Table 1 overleaf highlights the differences between the preparations.

Supporting evidence

Goserelin, triptorelin and leuprorelin are licensed for use in prostate cancer and all now have the same specific indications of metastatic prostate cancer, locally advanced prostate cancer, as an adjuvant treatment to radiotherapy or radical prostatectomy and as neo-adjuvant treatment prior to radiotherapy in patients with high-risk localised or locally advanced prostate cancer.

There is limited comparative data of different LHRH agonists. There is evidence that LHRH agonists are similar in effectiveness to surgical castration and that no one LHRH agonist is superior to another in terms of adverse effects.[2] The NICE evidence summary for triptorelin concludes that local decision makers will need to consider the evidence for triptorelin alongside that for other LHRH agonists. Individual patient factors, and the licensed indications, dosage intervals and costs of the various LHRH agonists available will need to be taken into account in the context of NICE guidance.[1,3]

- Triptorelin is administered via a smaller sized needle (20 gauge) compared with goserelin LA 10.8mg (14 gauge) therefore minimising discomfort to patients.[4,5]
- Drugs which raise prolactin levels, e.g. antipsychotics should not be prescribed concomitantly as they reduce LHRH receptors in the pituitary. The SPC advises caution with triptorelin and it is recommended that the patients's hormonal status be supervised.[6]
- Subcutaneously administered LHRH agonists, goserelin or leuprorelin may be preferable in anticoagulated patients, rather than triptorelin which is administered intramuscularly.[6]

Table 1: A comparison of doses, frequency of administration and costs of LHRH agonists

Frequency	Monthly				3 monthly			6 monthly
Drug & dose	Goserelin 3.6mg	Leuprorelin 3.75mg	Triptorelin 3mg	Triptorelin 3.75mg	Goserelin 10.8mg	Leuprorelin 11.25mg	Triptorelin 11.25mg	Triptorelin 22.5mg
Brand name	Zoladex®	Prostap® SR DCS	Decapeptyl ® SR	Gonapeptyl® Depot	Zoladex® LA	Prostap® 3 DCS	Decapeptyl® SR	Decapeptyl ® SR
Form	Implant in prefilled syringe	Powder plus solvent in prefilled syringe	Powder for suspension with diluent	Powder for suspension with vehicle filled syringe	Implant in prefilled syringe	Powder plus solvent in prefilled syringe	Powder for suspension with diluent	Powder for suspension with diluent
Administration interval	28 days	Monthly	4 weekly	4 weekly	12 weekly	3 monthly	3 monthly	6 monthly
Needle safety device	Yes	Yes	No	No	Yes	Yes	No	No
Needle size	16 gauge	23 gauge	20 gauge	21 gauge[7]	14 gauge	23 gauge	20 gauge	20 gauge
Injection route	S/C	S/C or I/M	I/M	S/C or I/M	S/C	S/C	I/M	I/M
Cost per year[8]	£845	£902.88	£897	£1061.97	£1018.33	£902.88	£828	£828

References

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