NATIONAL INSTITUTE FOR HEALTH AND CLINICAL EXCELLENCE

Proposed Health Technology Appraisal

Tadalafil for the treatment of benign prostatic hyperplasia

Draft scope (Pre-referral)

Draft remit/appraisal objective

To appraise the clinical and cost effectiveness of tadalafil within its licensed indication for the treatment of benign prostatic hyperplasia.

Background

Benign prostatic hyperplasia (BPH) is noncancerous enlargement of the prostate. It can be associated with lower urinary tract symptoms that impact negatively on quality of life. Symptoms may reflect difficulties when emptying the bladder (weak urine flow, hesitancy, straining and incomplete emptying) or bladder storage problems (frequency, urgency and nocturia). The precise relationship between symptoms and prostate enlargement is not clear as only 25–50% of people with BPH have symptoms.

The prevalence of BPH increases with age and troublesome lower urinary tract symptoms occur in up to 30% of men older than 65 years. Around 40% of men aged 50 years have histological evidence of BPH, rising to 90% for men in their 80s. Some US studies have suggested that the prevalence of BPH is significantly higher in black people. Black people are at increased risk of requiring surgery to treat BPH.

In 2008–9 there were approximately 39,000 inpatient admissions due to BPH in England, accounting for around 76,000 bed days.

BPH is known to be the most common cause of lower urinary tract symptoms. Guidance on ‘Lower urinary tract symptoms: the management of lower urinary tract symptoms in men’ (NICE clinical guideline 97) recommends several possible drug treatments. People with moderate to severe symptoms suggestive of BPH can be offered an alpha blocker (alfuzosin, doxazosin, tamsulosin or terazosin). If they also have an enlarged prostate or raised PSA levels, they can be offered a combination of an alpha blocker and a 5-alpha reductase inhibitor (finasteride or dutasteride). A 5-alpha reductase inhibitor may be offered to people with symptoms suggestive of BPH who have an enlarged prostate or raised PSA levels, and who are considered to be at high risk of progression (for example, older people).

Other options recommended in the guideline are adding an anticholinergic to alpha blocker therapy if bladder storage symptoms have not responded adequately to an alpha blocker alone and using a late afternoon loop diuretic or oral desmopressin to treat nocturnal polyuria. Surgery should only be offered after discussing alternatives and possible outcomes with the person if

conservative management and drug treatment were unsuccessful or not appropriate, or if their symptoms when emptying the bladder are severe.

The technology

Tadalafil (Brand unknown; Lilly) is a selective, reversible inhibitor of cyclic guanosine monophosphate (cGMP)-specific phosphodiesterase type 5 (PDE5). It is thought that inhibition of PDE5 reduces BPH symptoms through smooth muscle relaxation and increased blood flow to the bladder, prostate and urethra. Tadalafil is administered orally.

Tadalafil does not currently have a UK marketing authorisation for the treatment of benign prostatic hyperplasia. It has been studied in clinical trials in comparison with placebo and an alpha blocker in men with moderate to severe symptoms of BPH.

Tadalafil has a UK marketing authorisation for the treatment of erectile dysfunction in men.

Intervention(s)	Tadalafil
Population(s)	People with moderate to severe symptoms of benign prostatic hyperplasia
Comparators	• Alpha blocker • 5-alpha reductase inhibitor • Combination of an alpha blocker and a 5-alpha reductase inhibitor • Combination of an alpha blocker and an anticholinergic • Active surveillance
Outcomes	The outcome measures to be considered include: • symptoms (for example, frequency and urgency of urination) • physiological measures (for example, peak urinary flow rate and post-void residual urine volume) • adverse effects of treatment • health-related quality of life

Economic analysis	The reference case stipulates that the cost effectiveness of treatments should be expressed in terms of incremental cost per quality-adjusted life year. The reference case stipulates that the time horizon for estimating clinical and cost effectiveness should be sufficiently long to reflect any differences in costs or outcomes between the technologies being compared. Costs will be considered from an NHS and Personal Social Services perspective.
Other considerations	Guidance will only be issued in accordance with the marketing authorisation. If the evidence allows, the following subgroups will be considered: mild, moderate and severe symptoms.
Related NICE recommendations	Related Guidelines: Clinical Guideline No. 97, May 2010, 'Lower urinary tract symptoms: the management of lower urinary tract symptoms in men' Clinical Guideline No. 97, June 2005, 'Referral guidelines for suspected cancer' Related Interventional Procedures: Interventional Procedure Guidance No. 275, November 2008, 'Laparoscopic prostatectomy for benign prostatic obstruction'

Questions for consultation

Have the most appropriate comparators for tadalafil for the first-line treatment of BPH been included in the scope?

- Are the comparators listed routinely used in clinical practice?
- For which patients is active surveillance an appropriate comparator?

Are there any subgroups of people in whom the technology is expected to be more clinically effective and cost effective or other groups that should be examined separately?

Please consider whether in the remit or the scope there are any issues relevant to equality. Please pay particular attention to whether changes need to be made to the remit or scope in order to promote equality, eliminate unlawful discrimination, or foster good relations between people who share a characteristic protected by the equalities legislation and those who do not share it, or if there is information that could be collected during the

assessment process which would enable NICE to take account of equalities issues when developing guidance.

Do you consider the technology to be innovative in its potential to make a significant and substantial impact on health-related benefits and how it might improve the way that current need is met (is this a 'step-change' in the management of the condition)?

Do you consider that the use of the technology can result in any potential significant and substantial health-related benefits that are unlikely to be included in the QALY calculation?

Please identify the nature of the data which you understand to be available to enable the Appraisal Committee to take account of these benefits.

NICE intends to appraise this technology through its Single Technology Appraisal (STA) Process. We welcome comments on the appropriateness of appraising this topic through this process. (Information on the Institute's Technology Appraisal processes is available at http://www.nice.org.uk/aboutnice/howwework/devnicetech/technologyappraisalprocessguides/technology_appraisal_process_guides.jsp)