NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Proposed Health Technology Appraisal

Serelaxin for treating acute decompensation of heart failure

Draft scope (pre-referral)

Draft remit/appraisal objective

To appraise the clinical and cost effectiveness of serelaxin within its licensed indication for treating acute decompensation of heart failure.

Background

Heart failure occurs when abnormal cardiac function causes failure of the heart to pump blood at sufficient rate for metabolic requirements under normal filling pressure. It is characterised by breathlessness, fatigue, fluid retention and poor survival. Acute heart failure describes the sudden onset of heart failure with potentially life-threatening symptoms such as peripheral or pulmonary congestion with or without hypo-perfusion (decreased blood flow through the organs). Acute heart failure can occur in people without known cardiac dysfunction or in people with known chronic heart failure that has become decompensated (that is, a significant deterioration in heart function).

Acute heart failure is a common cause of admission to hospital, and the leading cause of hospital admission in people 65 years and older in the UK. The incidence of heart failure is about 100 per 100,000 of the population. This is rising at about 10% per year. In England, there were around 60,000 admissions for heart failure in 2010-11, approximately half of which were for acute heart failure. Mortality from acute and chronic heart failure is high. The 2010/11 UK National Heart Failure Audit showed that about a third of people with acute heart failure die during their first hospitalisation or in the year after.

Current treatments for people with acute heart failure who have fluid overload include IV loop diuretics (for example furosemide, bumetanide, torasemide), vasodilators (for example ACE inhibitors) and inotropes (for example digoxin). For people with acute heart failure who also experience diuretic resistance, thiazide diuretics (for example hydrochlorothiazide) in low doses can be added if loop diuretics fail to achieve sufficient diuresis or a decrease in dyspnoea. Inotropic agents (dopamine and dobutamine) may be added where hypotension and hypoperfusion are clinically evident to preserve end-organ perfusion. People who need inotropic support at admission have considerable worsening of heart function compared with those who can be managed using loop diuretics and/or IV vasodilators at admission. NICE Clinical Guideline 108 on chronic heart disease recommends that intravenous inotropic agents (such as dopamine, dobutamine and enoxamine should only be considered for the short-term treatment of acute decompensation of chronic heart failure.

The technology

Serelaxin (Relaxin, Novartis) is a synthetic analogue of a naturally occurring peptide hormone that stimulates vasodilation and renal function leading to improved cardiac output. Serelaxin is administered intravenously.

Serelaxin does not currently have a UK marketing authorisation for treating acute decompensation of heart failure. It has been studied in clinical trials in addition to loop diuretics compared with placebo plus loop diuretics in adults hospitalised with acute heart failure and mild to moderate renal impairment.

Intervention(s)	Serelaxin in combination with loop diuretics
Population(s)	People with acute heart failure and renal dysfunction who are receiving loop diuretics
Comparators	• Intravenous nitrates (such as nitroglycerin) • Intravenous loop diuretics alone (such as furosemide, bumetamide or torasemide) • Inotropic agents (such as dopamine or dobutamine)
Outcomes	The outcome measures to be considered include: • mortality • signs and symptoms of heart failure • re-hospitalisations for heart failure • length of initial hospital stay • renal function • 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.

Related NICE recommendations and NICE pathways	Related Technology Appraisals: Technology Appraisal No.267, Nov 2012, 'Ivabradine for the treatment of chronic heart failure'. Review Proposal Date Nov 2015. Technology Appraisal No. 120, May 2007, 'Cardiac resynchronisation therapy for the treatment of heart failure'. Under review. Technology Appraisal in Preparation, 'Implantable cardioverter defibrillators for the treatment of arrhythmias and cardiac resynchronisation therapy for the treatment of heart failure (review of TA95 and TA120)'. Earliest date of publication TBC. Related Guidelines: Clinical Guideline No.108, Aug 2010, 'Chronic heart failure: management of chronic heart failure in adults in primary and secondary care'. Review Proposal date Aug 2013. Clinical Guideline No. 126, Jul 2011, 'The management of stable angina'. Review Proposal date Jul 2014. Clinical Guideline No. 127, Aug 2011, 'Hypertension: clinical management of primary hypertension in adults'. Review Proposal date Aug 2014. Clinical Guideline in Preparation, 'Acute heart failure: diagnosing and managing acute heart failure in adults'. Earliest anticipated date of publication Sep 2014. Related Interventional Procedures: Interventional Procedure Guidance No.177, June 2006, 'Short-term circulatory support with left ventricular assist devices as a bridge to cardiac transplantation or recovery'. Related Quality Standards: Quality Standard No.9, Jun 2011, 'Chronic heart failure'. http://www.nice.org.uk/guidance/qualitystandards/qualitystandards.jsp
Related NHS England policy	National service framework for coronary heart disease, Mar 2000. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/198931/National_Service_Framework_for_Coronary_Heart_Disease.pdf

Questions for consultation

Have all relevant comparators for serelaxin been included in the scope? Which treatments are considered to be established clinical practice in the NHS for acute decompensation of heart failure?

Have the most appropriate outcome measures been included in the scope?

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?

NICE is committed to promoting equality of opportunity, eliminating unlawful discrimination and fostering good relations between people with particular protected characteristics and others. Please let us know if you think that the proposed remit and scope may need changing in order to meet these aims. In particular, please tell us if the proposed remit and scope:

- could exclude from full consideration any people protected by the equality legislation who fall within the patient population for which serelaxin will be licensed;

- could lead to recommendations that have a different impact on people protected by the equality legislation than on the wider population, e.g. by making it more difficult in practice for a specific group to access the technology;

- could have any adverse impact on people with a particular disability or disabilities.

Please tell us what evidence should be obtained to enable the Committee to identify and consider such impacts.

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/technologyappraisallprocessguides/technology_appraisal_process_guides.jsp).

Subject to referral by the Department of Health, the invite for participation in this technology appraisal is anticipated for after January 2014, when new arrangements for the pricing of pharmaceuticals are expected to be in place. Consequences for this appraisal will be explored through further consultation on the scope pre-invitation.