NATIONAL INSTITUTE FOR HEALTH AND CLINICAL EXCELLENCE

Proposed Health Technology Appraisal

Vernakalant for the treatment of recent onset atrial fibrillation

Draft scope (Pre-referral)

Draft remit/appraisal objective

To appraise the clinical and cost effectiveness of vernakalant within its licensed indication for the treatment of recent onset atrial fibrillation.

Background

Atrial fibrillation is the most common sustained cardiac arrhythmia in clinical practice. Atrial fibrillation is characterised by predominantly uncoordinated electrical activity of the atria with consequent deterioration of atrial mechanical function. Atrial fibrillation is caused by various cardiac and non-cardiac diseases and is common after cardiac surgery. Symptoms include palpitations, breathlessness, chest pain or discomfort, dizziness, or in extreme cases loss of consciousness. Severe symptoms can be life-threatening and require immediate treatment as there is an increased risk of developing a thromboembolism which could lead to a stroke. In many cases, however, people with atrial fibrillation have no or only mild symptoms. Atrial fibrillation can be classed as acute-onset (comes on suddenly), persistent (lasts longer than 7 days or doesn't stop without treatment), permanent (lasts for more than a year), paroxysmal (lasts less than 7 days and may re-occur) or post-operative (occurs after having surgery).

In 2007 around 500,000 people in the UK were affected by atrial fibrillation. The prevalence of atrial fibrillation increases with age with a prevalence of 0.5% at age 50-59 years increasing to nearly 9% in people aged 80-89 years. Among acute emergency medical admissions in the UK, 3-6% had atrial fibrillation and about 40% of these were newly diagnosed. Postoperative atrial fibrillation following cardiothoracic surgery occurs in approximately 33% of patients after coronary heart surgery.

Management of atrial fibrillation depends on the type, the presence of concomitant/precipitating conditions and patient characteristics (age, symptoms, and activity levels).

To convert atrial fibrillation to normal sinus rhythm cardioversion can be performed. There are two types of cardioversion: electrical and pharmacological. Pharmacological cardioversion involves the use of various antiarrhythmic drugs. Patients undergoing pharmacological cardioversion are usually admitted to hospital and have an antiarrhythmic drug administered intravenously, under ECG monitoring.

NICE clinical guideline No. 36 recommends that in people who are haematologically stable with an onset of atrial fibrillation within the previous 48 hours or in people with persistent atrial fibrillation, either pharmacological or electrical cardioversion should be performed. Where the decision to perform pharmacological cardioversion using an intravenous antiarrhythmic agent has been made: in the absence of structural heart disease, flecainide or propafenone should be the drug of choice; and in the presence of structural heart disease, amiodarone should be the drug of choice. NICE clinical guideline No. 36 also recommends that unless contraindicated, either electrical or pharmacological cardioversion should be the initial management option for the treatment of postoperative atrial fibrillation following cardiothoracic surgery.

The technology

Vernakalant (Brinavess, Merck, Sharp & Dohme) is an atrial selective sodium and potassium channel blocker. It selectively prolongs the atrial refractory period and rate-dependently slows impulse conduction. Vernakalant is administered intravenously.

Vernakalant has a marketing authorisation for rapid conversion of recent onset atrial fibrillation to sinus rhythm in adults (for non-surgery patients: atrial fibrillation ≤ 7 days duration; for people who have had cardiac surgery: atrial fibrillation ≤ 3 days duration).

Intervention(s)	Vernakalant
Population(s)	Adults who are haemodynamically stable who have not undergone surgery, with atrial fibrillation ≤ 7 days duration Adults who are haemodynamically stable who have undergone cardiac surgery, with atrial fibrillation ≤ 3 days duration

Comparators	• For patients with no structural heart disease
	  • flecainide
	  • propafenone
	• For patients with structural heart disease
	  • amiodarone

Outcomes	The outcome measures to be considered include: • rate of conversion to normal sinus rhythm • time to conversion to normal sinus rhythm • symptoms and complications related to atrial

	fibrillation • mortality • 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	Related Technology Appraisals: Technology Appraisal No.197, August 2010. Dronedarone for the treatment of atrial fibrillation. Review date March 2013. Related Guidelines: Clinical guideline No. 36, June 2006, The management of Atrial Fibrillation. Review date June 2011.

Questions for consultation

Have the most appropriate comparators for vernakalant for the treatment of atrial fibrillation been included in the scope? Should electrical cardioversion be included as a comparator?

Should any specific symptoms and/or complications be listed in the outcomes?

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?

Are there any issues that require special attention in light of the duty to have due regard to the need to eliminate unlawful discrimination and promote equality?

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)