NATIONAL INSTITUTE FOR HEALTH AND CLINICAL EXCELLENCE

Single Technology Appraisal

Lorcaserin hydrochloride for the treatment of obesity and overweight

Draft scope

Remit/appraisal objective

To appraise the clinical and cost effectiveness of lorcaserin hydrochloride within its licensed indication for the treatment of adults who are obese and the treatment of adults who are overweight who have at least one obesity related co-morbidity.

Background

Obesity is a chronic condition characterised by increased body fat, which poses a significant risk to health. The most common method for measuring obesity is body mass index (BMI) which is calculated as the ratio of weight to height squared. In adults of European family origin, overweight is typically defined by a BMI of 25 kg/m^2 to 29 kg/m^2 and obesity by a BMI of 30 kg/m^2 or more (an appropriate adjustment of BMI for other ethnic groups is necessary). People with obesity are at increased risk of developing cardiovascular disease, type-2 diabetes, atherosclerosis (the presence of fatty deposits in the arteries), hypertension and dyslipidaemia (abnormal levels of fats in the blood). In 2009, almost two-thirds of adults in England were classed as being overweight or obese and almost a quarter of adults were obese.

Current treatment of obesity includes dietary and lifestyle advice, pharmacological treatments, and surgical intervention. NICE has produced several public health guidance documents which address weight management. NICE clinical guideline 43 for the prevention, identification, assessment and management of overweight and obesity in adults and children recommends that drug therapy with orlistat should only be considered after dietary, exercise and behavioural approaches have been started and evaluated. The clinical guideline also recommends that surgical intervention (such as bariatric surgery) is considered as a first-line option for adults with a BMI of more than 50 kg/m^2. For adults with BMI of more than 40 kg/m^2 or BMI of more than 35 kg/m^2 with other significant obesity-related disease (such as type II diabetes) it is recommended that surgery is considered only after all appropriate non-surgical measures have been tried but have failed to achieve or maintain adequate weight loss for at least 6 months.

The technology

Lorcaserin hydrochloride (brand name to be confirmed, Arena Pharmaceuticals) selectively stimulates the serotonin 2C (5-HT2C) receptor, which is located in the hypothalamus, the area of the brain associated with regulation of satiety, macronutrient selection and metabolism. Lorcaserin

hydrochloride is administered orally. It is intended for use in combination with behaviour modification.

Lorcaserin hydrochloride does not have a UK marketing authorisation. It has been studied in three trials examining its effect in combination with behaviour modification, compared with placebo, in overweight adults (BMI 27 to 29.9 kg/m^2) with at least one co-morbid condition (hypertension, dyslipidemia, cardiovascular disease, glucose intolerance or sleep apnoea), in obese adults (BMI 30 to45 kg/m^2) with or without at least one comorbid condition, and in overweight and obese adults (BMI 27 to 40 kg/m^2) with type 2 diabetes.

Intervention(s)	Lorcaserin hydrochloride in combination with behaviour modification.
Population(s)	• Obese adults • Overweight adults with at least one comorbid condition.
Comparators	• Orlistat (high dose and low dose preparations) in combination with behaviour modification • Phentermine with topiramate in combination with behaviour modification (subject to NICE appraisal)
Outcomes	The outcome measures to be considered include: • weight loss • waist or hip circumference • development of type II diabetes • cardiovascular events • mortality • adverse effects of treatment • health-related quality of life Where information on clinical endpoints is unavailable, consideration may be given to surrogate end-points such as: • glycated haemoglobin (HbA1c) • cholesterol levels and lipid profiles (including LDL and HDL) • blood pressure • insulin resistance

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	If the evidence allows the following subgroups will be considered: • type II diabetes • impaired glucose tolerance Guidance will only be issued in accordance with the marketing authorisation. The need for different BMI ranges for people from certain ethic backgrounds will be considered.
Related NICE recommendations	Related Technology Appraisals Technology Appraisal in preparation 'Phentermine with topiramate for the treatment of obesity and overweight' Earliest anticipated date of publication: July 2013 . Related Clinical Guidelines Clinical Guideline 43, December 2006. Obesity: the prevention, identification, assessment and management of overweight and obesity in adults and children. Partial review in preparation. Earliest anticipated publication date tbc. Related Public Health Guidance Public Health Guidance 2, March 2006. Four commonly used methods to increase physical activity. Review decision date: March 2013. Public Health Guidance 8, January 2008. Physical activity and the environment. Review decision date: February 2014. Public Health Guidance 13, May 2008. Promoting physical activity in the workplace. Review decision date: July 2014. Public Health Guidance 27, July 2010. Dietary interventions and physical activity interventions for weight management before, during and after pregnancy.

	Review decision date: July 2013. Public Health Guidance in preparation: BMI and waist circumference – black and minority ethnic groups. Earliest anticipated date of publication: June 2013. Public Health Guidance in preparation: Obesity – working with local communities. Earliest anticipated date of publication: November 2012. Public Health Guidance in preparation: Overweight and obese adults - lifestyle weight management. Earliest anticipated date of publication: October 2013.

Questions for consultation

Have the most appropriate comparators for lorcaserin hydrochloride for the treatment of obesity and overweight been included in the scope? Are there any other treatments which are routinely used in clinical practice?

Should change in concomitant medication be considered as an outcome?

Are the subgroups suggested in 'other considerations appropriate? Are there any other 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?

- In particular, should number and type of weight-related co-morbid conditions be added as a subgroup?

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 [the treatment(s)] is/are/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