NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Single Technology Appraisal

Icosapent ethyl with statin therapy for reducing the risk of cardiovascular events in adults with elevated triglycerides [ID3831]

Final scope

Remit/appraisal objective

To appraise the clinical and cost effectiveness of icosapent ethyl with statin therapy within its marketing authorisation for preventing cardiovascular events in people with elevated triglycerides.

Background

Hypertriglyceridemia is a form of dyslipidaemia characterised by high concentrations of triglycerides in the blood and is a risk factor for cardiovascular disease (CVD)[1]. Triglyceride levels can be raised due to either primary causes (an inherited genetic condition) or secondary causes (other influences on triglycerides such as diet, lifestyle and medical conditions such as kidney disease, non-alcoholic fatty liver disease, gout, obesity and type 2 diabetes)[2]. Some people with hypertriglyceridemia have normal levels of high-density lipoprotein (HDL) and low-density lipoprotein (LDL) cholesterol. Others have mixed dyslipidaemia, defined as hypertriglyceridemia along with elevations in cholesterol levels (hypercholesterolaemia)[3].

People with hypertriglyceridemia are at increased risk of CVD. This may be due to the build-up of fatty deposits in arteries (atherosclerosis) which can lead to angina, and an increased risk of blood clots, myocardial infarction and stroke[4]. It can be associated with damage to arteries in organs such as the brain, heart, kidneys and eyes. CVD is a common cause of death in England, accounting for approximately 136,317 deaths in 2018, and it is a major cause of disability and reduced quality of life[3].

NICE guideline CG181 recommends advising people at high risk of, or with, CVD to eat a cardioprotective diet, engage in physical activity and stop smoking. Statins are recommended for both primary prevention of CVD (in people with increased risk of CVD in whom lifestyle modification is ineffective or inappropriate) or secondary prevention of cardiovascular events in people with CVD. There are around 6.1 million people living with CVD in England and around 6.5 million adults in England are currently taking lipid-lowering drugs such as statins for primary or secondary prevention of CVD. No treatments are recommended specifically for the management of hypertriglyceridemia in people who are taking statins. Fibrates, nicotinic acid, bile sequestrants and omega-3 fatty acids are currently not recommended for the primary or secondary prevention of CVD.

The technology

Icosapent ethyl (Vascepa, Amarin Corporation) is a highly purified ethyl ester of eicosapentaenoic acid. Icosapent ethyl is thought to reduce hepatic very-low-density lipoprotein triglyceride synthesis and secretion and enhance triglyceride clearance. It is administered orally.

Icosapent ethyl does not currently have a marketing authorisation in the UK. It has been studied in combination with statins in clinical trials in adults with established CVD or high risk for CVD and hypertriglyceridemia for the prevention of cardiovascular events. It received positive Committee for Medicinal Products for Human Use (CHMP) opinion on 28th January 2021. The full indication is to reduce the risk of cardiovascular events in adult statin-treated patients at high cardiovascular risk with elevated triglycerides (≥150 mg/dL) and

- established cardiovascular disease, or
- diabetes, and at least one other cardiovascular risk factor.

Intervention(s)	Icosapent ethyl in combination with a statin
Population(s)	Adults on statin therapy with elevated triglycerides who are at high risk of cardiovascular events due to: • established cardiovascular disease, or • diabetes, and at least 1 other cardiovascular risk factor.
Comparators	• Established clinical management (including high and low-intensity statins)
Outcomes	The outcome measures to be considered include: • cardiovascular event (including cardiovascular death, non-fatal myocardial infarction, non-fatal stroke, coronary revascularisation and unstable angina) • mortality • hospital admissions • 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. The availability of any commercial arrangements for the intervention, comparator and subsequent treatment technologies will be taken into account.

Other considerations	If the evidence allows the following subgroups will be considered: • adults with established cardiovascular disease (secondary prevention) • adults with diabetes and at least one other cardiovascular risk factor Guidance will only be issued in accordance with the marketing authorisation. Where the wording of the therapeutic indication does not include specific treatment combinations, guidance will be issued only in the context of the evidence that has underpinned the marketing authorisation granted by the regulator.
Related NICE recommendations and NICE Pathways	Related Technology Appraisals: None Appraisals in development: None Related Guidelines: Acute coronary syndromes (2020). NICE clinical guideline 185. Cardiovascular disease: risk assessment and reduction, including lipid modification (2014). NICE clinical guideline 181. Update due. Related Quality Standards: Cardiovascular risk assessment and lipid modification (2015). NICE quality standard 100. Secondary prevention after a myocardial infarction (2015). NICE quality standard 99. Related NICE Pathways: Cardiovascular disease prevention (2017) NICE pathway
Related National Policy	NHS RightCare. Preventing CVD by managing the high-risk conditions. Public Health England. Health matters: preventing cardiovascular disease (2019) Public Health England. Cardiovascular disease: getting serious about prevention (2016) Department of Health. Cardiovascular Disease Outcomes Strategy Improving outcomes for people with or at high risk of cardiovascular disease (2013) The NHS Long Term Plan, 2019. NHS Long Term Plan Department of Health and Social Care, NHS Outcomes Framework 2016-2017: Domains 1 and 2.

References

1. Yuan et al., Hypertriglyceridemia: its etiology, effects and treatment. CMAJ, 176 (8) 1113-1120; 2007

2. Heart UK; Triglycerides. Accessed August 2020

3. British Heart Foundation, England factsheet, July 2020. Access August 2020

4. Peng et al., Hypertriglyceridemia and atherosclerosis. Lipids in Health and Disease, 16: 233; 2017

