NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Proposed Health Technology Appraisal

Canakinumab for preventing cardiovascular events after myocardial infarction in people with raised high-sensitivity C-reactive protein

Draft scope (pre-referral)

Draft remit/appraisal objective

To appraise the clinical and cost effectiveness of canakinumab within its marketing authorisation for preventing cardiovascular events after myocardial infarction in people with raised high-sensitivity C-reactive protein.

Background

Myocardial infarction is usually caused by the blockage of a coronary artery in people with cardiovascular disease. In 2016/17 there were approximately 81,000 hospital admissions for acute myocardial infarction in England.[1]

People who have had a myocardial infarction are at risk of further myocardial infarction or other cardiovascular events such as stroke. Risk factors for further cardiovascular events include diabetes, increasing age and renal failure. People with elevated inflammatory biomarkers such as high-sensitivity C-reactive protein may also have increased risk of cardiovascular events[2].

NICE Clinical Guideline 172 myocardial infarction: cardiac rehabilitation and prevention of further cardiovascular disease recommends exercise, dietary changes and help to stop smoking for people who smoke. It also recommends that everyone who has an acute myocardial infarction should be offered treatment with a combination of an angiotensin-converting enzyme inhibitor, a dual antiplatelet therapy, a beta blocker and a statin. Dual antiplatelet therapy includes aspirin with either clopidogrel, prasugrel or ticagrelor continued for up to 12 months. Dual antiplatelet therapies are also recommended in Technology Appraisal guidance 210 (clopidogrel), 317 (prasugrel) and 236 (ticagrelor). NICE Technology Appraisal guidance 420 recommends up to 3 years treatment with ticagrelor for people at high risk of a further event. Aspirin alone is recommended indefinitely for people for whom aspirin is suitable. Rivaroxaban (an anticoagulant) is also recommended in Technology Appraisal guidance 335 in combination with aspirin plus clopidogrel or aspirin alone, for preventing cardiovascular events in people who have had an acute coronary syndrome (including myocardial infarction).

The technology

Canakinumab (brand name unknown, Novartis) is a fully humanised monoclonal antibody that inhibits interleukin 1-beta, a cytokine in the inflammatory pathway which contributes to the continued progression of inflammatory atherosclerosis. It is administered as a subcutaneous injection.

Canakinumab does not currently have a marketing authorisation in the UK for this indication. It has been studied in a clinical trial as an addition to standard treatments for preventing cardiovascular events in people who have had a myocardial infarction 30 days before randomisation and who have raised high-sensitivity C-reactive protein (≥2mg/l).

Intervention(s)	Canakinumab
Population(s)	Adults who have had a prior myocardial infarction and who have raised high-sensitivity C-reactive protein
Comparators	Established clinical management without canakinumab
Outcomes	The outcome measures to be considered include: • non-fatal myocardial infarction • non-fatal stroke • urgent coronary revascularisation • 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. 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: Clopidogrel and modified-release dipyridamole for the prevention of occlusive vascular events (2010) NICE technology appraisal guidance 210. Moved to static list September 2013. Ticagrelor for the treatment of acute coronary syndromes (2011) NICE technology appraisal guidance

	236. Moved to static list May 2013. Prasugrel with percutaneous coronary intervention for treating acute coronary syndromes (2014) NICE technology appraisal guidance 317. Moved to static list August 2017. Rivaroxaban for preventing adverse outcomes after acute management of acute coronary syndrome (2015) NICE technology appraisal guidance 335. Next review: March 2018 Ticagrelor for preventing atherothrombotic events after myocardial infarction (2016) NICE technology appraisal guidance 420. Review date December 2019 Related Guidelines: Myocardial infarction: cardiac rehabilitation and prevention of further cardiovascular disease (2013) NICE guideline CG172. Reviewed May 2017 Unstable angina and NSTEMI: early management (2010) NICE guideline CG94. Being updated currently Related Public Health Guidance/Guidelines: Cardiovascular disease prevention (2010). NICE public health guideline 25. Next review to be scheduled.. Cardiovascular disease: identifying and supporting people most at risk of dying early (2008) NICE guideline PH15. Next review to be scheduled. Related Quality Standards: Secondary prevention after a myocardial infarction (2015) NICE quality standard 99. Reviewed 2017; next review August 2018 Acute coronary syndromes in adults (2014). NICE quality standard 68. Reviewed 2017; next review August 2018 Related NICE Pathways: Myocardial infarction: rehabilitation and preventing further cardiovascular disease (last updated 2017)
Related National Policy	NHS England (2017) Manual for Prescribed Specialised Services 2017/18, chapter 7 Adult specialist cardiac service. Department of Health, NHS Outcomes Framework

	2016-2017 (published 2016): Domains 1, 2 and 3. https://www.gov.uk/government/publications/nhs-outcomes-framework-2016-to-2017

Questions for consultation

Have all relevant comparators for canakinumab been included in the scope? Which treatments are considered to be established clinical practice in the NHS for preventing cardiovascular events after myocardial infarction in people with raised high-sensitivity C-reactive protein?

Are the outcomes listed appropriate?

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

Where do you consider canakinumab will fit into the existing NICE pathway, Myocardial infarction: rehabilitation and preventing further cardiovascular disease?

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 canakinumab 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 canakinumab 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 canakinumab 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.

To help NICE prioritise topics for additional adoption support, do you consider that there will be any barriers to adoption of this technology into practice? If yes, please describe briefly.

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/article/pmg19/chapter/1-Introduction).

References

1. NHS Digital (2017). Hospital Admitted Patient Care Activity, 2016-17. [online; accessed 16 January 2018]
2. Ridker PM (2014) Targeting inflammatory pathways for the treatment of cardiovascular disease. European Heart Journal 35, 540–543