NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Single Technology Appraisal

Rivaroxaban for the prevention of adverse outcomes in patients after the acute management of acute coronary syndrome

Updated final scope

Remit/appraisal objective

To appraise the clinical and cost effectiveness of rivaroxaban within its licensed indication for the prevention of adverse outcomes in patients after the acute management of acute coronary syndrome.

Background

The term acute coronary syndrome (ACS) is used to refer to a group of conditions including ST segment elevation myocardial infarction (STEMI), non ST segment elevation myocardial infarction (NSTEMI) and unstable angina, arising from thrombus formation on an atheromatous plaque (fat accumulation within heart vessel). ACS is usually the result of an acute or sub-acute primary reduction of myocardial oxygen supply caused by the subsequent disruption of blood flow. In 2009/10 there were 40,000 hospital admissions for unstable angina, and 57,000 admissions for acute myocardial infarction with 28,000 subsequent myocardial infarctions in England. ACS becomes more prevalent with increasing age and incidence is higher in men than women.

The presence of ST segment elevation on an electrocardiogram usually indicates total occlusion of the affected artery, resulting in necrosis of the tissue supplied by that artery (acute myocardial infarction (MI)). This condition (STEMI) is treated immediately with reperfusion therapy (thrombolysis or percutaneous coronary intervention [PCI]). ACS without STEMI is classified as either unstable angina or non ST segment elevation myocardial infarction (NSTEMI). NSTEMI differs from unstable angina primarily in the severity of myocardial ischaemia. In NSTEMI, the ischaemia is severe enough to result in the release of biochemical markers of myocardial injury into the blood. Immediate treatment for these conditions aims to prevent progression to total occlusion of the artery and, for people at high risk of myocardial infarction, may include coronary revascularisation, either by means of PCI or coronary artery bypass graft.

Long term management of ACS includes the use of aspirin and another antiplatelet agent (clopidogrel, prasugrel or ticagrelor). NICE has produced clinical guideline on secondary prevention in primary and secondary care for patients following a myocardial infarction (Clinical Guideline No. 172). For people with NSTEMI clopidogrel with aspirin or ticagrelor with aspirin are treatment options. For people with STEMI, who have received a bare-metal or drug eluting stent or who received medical management with or without

reperfusion treatment with a fibrinolytic agent, clopidogrel with aspirin is recommended. For people with STEMI who cardiologists intend to treat with PCI, ticagrelor with aspirin is a treatment option. For people with ACS (STEMI, NSTEMI or unstable angina) prasugrel with aspirin is a treatment option for people who require immediate PCI for STEMI, people who have had stent thrombosis while taking clopidogrel or people with diabetes (technology appraisal no. 182). For all indications the dual antiplatelet treatment is recommended to be continued for up to 12 months following the acute event after which aspirin is recommended to be taken indefinitely in people for whom aspirin is suitable.

The technology

Rivaroxaban (Xarelto, Bayer) is an antithrombotic agent which acts by direct inhibition of activated factor X (factor Xa). Factor Xa is a key component in the formation of thrombi. It is administered orally.

Rivaroxaban has a UK marketing authorisation for the prevention of atherothrombotic events in adult patients after an acute coronary syndrome with elevated cardiac biomarkers.

Intervention(s)	Rivaroxaban (in combination with aspirin or with aspirin and a thienopyridine [clopidogrel])
Population(s)	People with acute coronary syndrome with elevated cardiac biomarkers (STEMI and NSTEMI)
Comparators	• clopidogrel with aspirin • aspirin alone for people for whom clopidogrel is considered unsuitable
Outcomes	The outcome measures to be considered include: • death from any cause • non-fatal cardiovascular events • incidence of revascularisation procedures • adverse effects of treatment (including bleeding events) • 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	If the evidence allows the following subgroups will be considered: people with NSTEMI, people with STEMI; people with diabetes mellitus; people who received prior primary PCI and people who did not receive prior primary PCI in the acute phase of management. Guidance will only be issued in accordance with the marketing authorisation.
Related NICE recommendations	Related Technology Appraisals: Technology Appraisal No.182, October 2009, 'Prasugrel for the treatment acute coronary artery syndromes with percutaneous coronary intervention'. Under review expected date of issue Aug 2014. Technology Appraisal No. 236, October 2011, 'Ticagrelor for the treatment of acute coronary syndromes (ACS)'. On static list. Related Guidelines: Clinical Guideline No. 172, Nov 2013, 'Secondary prevention in primary and secondary care for patients following a myocardial infarction'. Related Quality Standards: Acute coronary syndrome (including myocardial infarction) in progress, anticipated date of issue Sept 2014.