Pharmacotherapeutic report on ticagrelor (Brilique®) for the prevention of atherothrombotic events in adult patients with acute coronary syndromes; including patients managed medically, and those who are managed with percutaneous coronary intervention (PCI) or coronary by-pass grafting (CABG)

Medicine. Ticagrelor. Tablet, film-coated 90 mg

Summary of the therapeutic value

Intended effects. Treatment with ticagrelor + acetylsalicylic acid (ASA) was shown to be superior to treatment with clopidogrel + ASA. The risk of all-cause mortality was statistically significantly reduced by 22%. In addition, in comparison with clopidogrel + ASA, treatment with ticagrelor + ASA reduced the risk of atherothrombotic events (including cardiovascular death, myocardial infarction and stent thrombosis). However, the risk of stroke was not reduced. An indirect comparison between ticagrelor + ASA and prasugrel + ASA showed that the intended effects were comparable. Nonetheless, the risk of all-cause mortality was not statistically significantly reduced in patients treated with prasugrel + ASA versus clopidogrel + ASA.

Unintended effects. The risk of non-CABG-related major bleeding was increased by 25% in patients treated with ticagrelor + ASA in comparison with patients treated with clopidogrel + ASA. There was no statistically significant increased risk of CABG-related major bleeding among patients who stopped treatment 1-7 days before an CABG procedure. Adverse events led to more discontinuations of treatment with ticagrelor in comparison with clopidogrel (7.4% versus 6.0%). An indirect comparison between ticagrelor and prasugrel showed that the risk of major bleeding was similar, except for patients undergoing an CABG procedure.

Experience. Limited experience has been gained with ticagrelor and prasugrel and considerable experience with clopidogrel.

Applicability. In general, ticagrelor and clopidogrel are similar with regard to contraindications, interactions with other medicinal products and precautions for use. The applicability of prasugrel may be narrower, because a dose reduction is required for patients 75 years and older and patients who weigh 60 kg or less, while the effects of a lower dose on safety and efficacy are unknown.

Ease of use. The method of administration of ticagrelor (namely oral) is the same as clopidogrel and prasugrel. The dose frequency of ticagrelor is higher, i.e., twice a day instead of once a day.

Final conclusion. Patients treated with ticagrelor + ASA had a 22% reduced risk of all-cause mortality in comparison with patients treated with clopidogrel + ASA. The risk of non-CABG-related major bleeding was increased by 25% in patients treated with ticagrelor + ASA versus clopidogrel + ASA. Adverse events led to more frequent discontinuation of treatment with ticagrelor than with clopidogrel. More experience has been gained with clopidogrel than with ticagrelor. The dose frequency of clopidogrel is once a day, while the dose frequency of ticagrelor is twice a day.

With regard to treatment of patients with acute coronary syndromes, ticagrelor has an added therapeutic value in comparison with clopidogrel.
In contrast to the results with prasugrel, treatment with ticagrelor was shown to result in a statistically significant reduction of the risk of all-cause mortality in comparison with treatment with clopidogrel.