

Oral anticoagulants for primary prevention, treatment and secondary prevention of venous thromboembolic disease, and for prevention of stroke in atrial fibrillation: systematic review, network meta-analysis and cost-effectiveness analysis

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Plain English summary

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Plain English summary

Blood clots, which can occur in both arteries and veins, sometimes break loose and move to other organs where they cause serious health problems. Venous thromboembolism (VTE) includes clots in deep veins of the legs or pelvis, and their displacement to the artery from the heart to the lungs. Atrial fibrillation (AF) is a form of irregular heartbeat that is associated with an increased risk of stroke. The UK NHS tries to reduce these problems in high-risk patients through anticoagulant drugs, which lower the risk of blood clots but increase the risk of bleeding. New oral anticoagulant drugs (NOACs) offer potential advantages compared with warfarin and low-molecular-weight heparin (LMWH), the current standard treatments. They cost more, but this might be offset by reduced need for anticoagulation services, better effectiveness or improved safety. We compared the clinical effectiveness and cost-effectiveness of these treatments in people with AF, and people with, or at risk of, VTE. We searched for relevant randomised trials, and compared all of the treatments that had been evaluated. One of the NOACs, apixaban, was among the best treatments for stroke prevention in AF, and was the most cost-effective. We found little evidence, in terms of clinical effectiveness or cost-effectiveness, that NOACs should replace LMWH for prevention of VTE after hip or knee surgery. For treatment of VTE, and for preventing repeat venous thromboembolisms, risk of complications due to bleeding was lower for some NOACs than for warfarin. Apixaban was the most cost-effective treatment for VTE, but it is not cost-effective to prescribe NOACs or warfarin for preventing recurrence of VTE.

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