Different strategies for pharmacological thromboprophylaxis for lower-limb immobilisation after injury: systematic review and economic evaluation

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Plain English summary

Pharmacological thromboprophylaxis for lower-limb immobilisation

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Plain English summary

People who have their leg immobilised in a plaster cast or brace following an injury are at risk of developing a blood clot. Sometimes the clot can break up and lodge in the lungs, which can make the person seriously ill. Drugs that thin the blood (anticoagulants) can reduce the risk of blood clots, but they carry a small risk of serious bleeding. This study analysed all published trials of anticoagulants for people with leg immobilisation and found that, without treatment, there was a 1–2% risk of a serious blood clot. This risk was roughly halved by using anticoagulant treatment. These estimates were used in a simulation model of patient treatment and it was found that the benefit of anticoagulants in reducing blood clots (in terms of length and quality of life) outweighed the risks of bleeding.

Next, all published studies of risk assessment tools were analysed. Risk assessment tools can be used to predict who is most likely to get a blood clot. There were only a few studies and they had significant weaknesses. The risk assessment tools in the simulation model were evaluated and it was found that the most cost-effective approach was to use a risk assessment tool to select approximately half of the patients for treatment (those at higher risk), while not treating those at lower risk. Treating only the higher-risk patients would be a cost-effective use of NHS resources, compared with treating nobody. Treating everybody, compared with just treating higher-risk patients, would improve outcomes for some patients but would not be a cost-effective use of NHS resources.

This study suggests that anticoagulant drugs are an effective and potentially cost-effective way of preventing blood clots in people with leg immobilisation due to injury. Research is needed to determine whether or not risk assessment tools can accurately predict who needs anticoagulant drugs and who does not.
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This report

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