Antithrombotic agents in patients with COVID-19

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1 Coagulopathy and thrombosis are associated with poor outcomes in patients hospitalized with COVID-19

COVID-19 is associated with hypercoagulability and endothelial injury, which contribute to an increased risk of macro- and microvessel thrombosis, disease progression and death.[1]

2 Antithrombotic agents are not recommended for thromboprophylaxis in outpatients with mild COVID-19

In a randomized controlled trial terminated early owing to lower than expected event rates, neither acetylsalicylic acid (ASA) nor apixaban (at prophylactic or therapeutic doses) reduced rates of major adverse cardiovascular or pulmonary events, compared with placebo, in outpatients with mild COVID-19.[2,3]

3 Therapeutic-dose heparin improves survival without organ support in noncritically ill hospitalized patients

Therapeutic-dose low-molecular-weight or unfractionated heparin is recommended for noncritically ill patients in hospital with COVID-19 who are not at high risk of bleeding.[3] In a large trial, therapeutic-dose heparin, compared with usual-care thromboprophylaxis, increased the probability of survival to discharge without organ support (80% v. 76%, number needed to treat = 25) and the risk of major bleeding (1.9% v. 0.9%, number needed to harm = 100).[4]

4 Thromboprophylaxis with standard-dose heparin is recommended in critically ill patients

In critically ill patients with COVID-19 who require organ support, neither therapeutic nor intermediate doses of heparin confer clinical benefit over usual-care thromboprophylaxis but are associated with known risks of bleeding.[3,5]

5 Acetylsalicylic acid does not improve outcomes in unselected hospitalized patients

The use of ASA to prevent death or the need for organ support in unselected patients in hospital with COVID-19 is not recommended.[3,6]

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