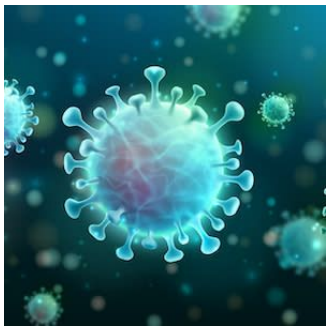
ICU
MANAGEMENT & PRACTICE

RAPID Trial: Therapeutic Heparin vs Prophylactic Heparin in COVID-19 Patients



A study was conducted to evaluate the effects of therapeutic heparin compared with prophylactic heparin among moderately ill patients with COVID-19 admitted to the hospital.

Heparin has anticoagulant properties, anti-inflammatory effects and potential antiviral effects and may also improve endothelial function. Early initiation of therapeutic heparin can decrease the thrombo-inflammatory process and reduce the risk of critical illness or death.

The Therapeutic Anticoagulation versus Standard Care as a Rapid Response to the COVID-19 Pandemic (RAPID) trial aimed to evaluate if therapeutic heparin is superior to prophylactic heparin in moderately ill patients with COVID-19 and increased D-dimer levels admitted to hospital wards and whether it can decrease the composite of admission to an ICU, mechanical ventilation, or death.

Four hundred sixty-five patients with COVID-19 and admitted to hospital wards were included in the study. Twenty-eight hospitals in Brazil, Canada, Ireland, Saudi Arabia, UAE and the U.S. participated. All patients had increased D-dimer levels and were randomly assigned to therapeutic dose heparin or prophylactic heparin. The dose was continued until hospital discharge, day 28, or death.

The primary outcome of the study was a composite of death, invasive mechanical ventilation, non-invasive mechanical ventilation, or admission to an ICU, assessed for up to 28 days. Secondary outcomes included all-cause death, the composite of all-cause death or any mechanical ventilation and venous thromboembolism. Safety outcomes included major bleeding.

Study findings show that at 28 days, the primary composite outcome occurred in 16.2% of patients assigned to therapeutic heparin and 21.9% assigned to prophylactic heparin. Deaths occurred in 1.8% of patients assigned to therapeutic heparin and in 7.6% of patients assigned to prophylactic heparin. The composite of all-cause death or any mechanical ventilation occurred in 10.1% in the therapeutic heparin group and 16% in the prophylactic heparin group. Venous thromboembolism occurred in 0.9% in the therapeutic heparin group and 2.5% in the prophylactic heparin group. Major bleeding occurred in 0.9% in the therapeutic group and 1.7% in the prophylactic group.

Overall, findings show that in moderately ill patients with COVID-19 and increased D-dimer levels admitted to hospital wards, the use of therapeutic heparin was not significantly associated with a reduction in the primary outcome. However, the odds of death at 28 days decreased with therapeutic heparin.

Source: BMJ

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