

Heparin

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Lack of efficacy: 2 case reports

In a report, two men aged 33 years and 47 years were described, who exhibited lack of effectiveness during anticoagulation with heparin for coagulopathy [*not all routes stated*].

Case 1: The 33-year-old man presented with a five days' history of shortness of breath and fever. The clinical findings and positive reverse transcriptase polymerase chain reaction (RT-PCR) assay for severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) confirmed COVID-19. He received off-label treatment with hydroxychloroquine and ceftriaxone for COVID-19. He also received prophylactic therapy with enoxaparin sodium [enoxaparin]. He required intensive care unit admission and intubation within 24 hours for progressive hypoxia. He developed recurrent arterial line clotting problems and catheter associated venous thrombosis of his internal jugular vein. CT pulmonary angiogram (CTPA) showed an acute pulmonary embolism (PE) with pulmonary infarction. A diagnosis of coagulopathy with thrombotic complications was made. He received heparin [unfractionated heparin] infusion for concurrent coagulopathy. However, his activated partial thromboplastin time (aPTT) did not become prolonged despite dose titrations upto 2755 units per hour. The man's heparin therapy was switched to argatroban and therapeutic anticoagulation with target aPTT ratio was achieved. His condition gradually improved without any thrombotic events or bleeding complications and he was discharged.

Case 2: The 47-year-old man presented to emergency department with two weeks' history of fever, myalgia, dyspnoea, dry cough, chills and anorexia. The clinical findings and positive reverse transcriptase polymerase chain reaction (RT-PCR) confirmed COVID-19 infection. He became hypoxic and required intubation in an intensive care unit with subsequent dialysis. He received empirical treatment with infusion of IV heparin 9 units/kg/h due to high D-dimer level. Dose was adjusted to 16 units/kg/h over 22 hours but, the aPTT level failed to respond. He had dialysis catheter associated clotting problems. A diagnosis of coagulopathy was made. The man's therapy was switched to argatroban due to multi-organ dysfunction. Therapeutic anticoagulation with target aPTT ratio was achieved. No further issues arised from dialysis filter. Argatroban was continued due to suspicion of a pulmonary embolus. Argatroban was later titrated with gradual improvement in multi-organ dysfunction. No bleeding complications with any thrombotic episodes were noted on argatroban. His clinical condition had gradually improved and he was weaned from mechanical ventilation later.