

Anticoagulation Practice in COVID-19 Associated Coagulopathy (CAC): The Unanswered Questions.

Since late 2019, the COVID-19 pandemic has affected millions of people globally with a wide range of manifestations ranging from asymptomatic infection to critical illness. The disease not only affects the lungs, but also affects other systems.

The COVID-19 associated coagulopathy (CAC) reflects a complex relation between inflammation and coagulation abnormalities with an underlying hypercoagulable state. Patients with severe COVID-19 can have high D-dimer and low platelets levels, which can confuse CAC with DIC. However, other coagulation parameters are different from DIC. Besides, COVID-19 is associated with hypercoagulability contrary to acute DIC which is usually associated with a bleeding tendency. The diagnostic evaluation of CAC is challenging because we do not know which coagulation parameter should be acted upon. D-dimer levels are associated with disease severity, but its impact on treatment decisions and dosing of anticoagulants is still under investigations. The intensity of anticoagulation used is still debated with some authorities recommending higher doses of anticoagulants in critically ill patients. The risk of thrombosis includes both venous and arterial sides which raises questions about the optimum strategy to prevent thrombosis and the role of antiplatelet drugs in COVID-19.

Management of COVID-19 patients who experience clotting of access lines or extracorporeal circuits while receiving prophylactic anticoagulants is still controversial. Decisions about post-discharge thromboprophylaxis, whether to use antiplatelets or anticoagulants, and the optimum dose and duration are still under investigations. Adding to the complexity of the situation, critically ill patients usually receive several medications that can interact with anticoagulants leading to inconsistent response, they have pharmacokinetic and pharmacodynamic variability which can lead to an increased potential for adverse events, and frequently undergo procedures that require interruption of their anticoagulation. Dealing with these dilemmas is a superadded challenge to physicians. In the era of COVID-19, we are faced with the uncertainty about the appropriate interventions to prevent and treat hypercoagulability associated with severe COVID-19 infections. Throughout history, the COVID-19 pandemic is one of the greatest challenges to our health care systems. Our response to the COVID-19 pandemic is to promote research in areas that need more studies to fill the knowledge gap.

This special issue focuses on CAC management dilemmas and is expected to attract the attention of many specialties including intensivists, hematologists, pulmonologists, infectious diseases specialists, internists, virologists, and clinical researchers. In the present special issue, we invite case reports or series, state-of-the-art review and original research articles focused on the pathophysiology, diagnosis, and treatment of CAC.

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