Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Letter to the Editors-in-Chief

Increased prevalence of VTE reported by Klok and colleagues, the numbers don't add up

Dear Editor,

I read with interest the study by Klok and colleagues, published April 5, 2020, entitled "Incidence of thrombotic complications in critically ill ICU patients with COVID-19." In this study the authors report that 31% of patients met the composite outcome of having a thrombotic complication which they define as having a pulmonary embolism, deep vein thrombosis, or an ischemic stroke. The study included 184 patients with 31 patients having a thrombotic complication. This adds up to an incidence of 16.8%, not 31%. Additionally, the authors report that 9.2% of the patients were on therapeutic anticoagulation upon admission. They do not report what percentage of those that made up the composite outcome were already on therapeutic anticoagulation upon enrollment in the study. This makes it plausible that the incidence of a true new thrombotic event was even lower than 16.8%. Finally, it is not clear if this study was prospective or retrospective, information that will help clinicians to weigh the validity of the results.

All hospitalized COVID-19 patients should receive chemical thromboprophylaxis as prior research suggests that 11% of these patients would develop venous thromboembolisms (VTE) if no prophylactic anticoagulation was given [1]. This has been reaffirmed by The International Society of Thrombosis and Haemostasis in their March 25, 2020 guidelines [2].

There is concern that patients with COVID-19 are at higher risk of developing venous thromboembolism. A recently published study claimed that anticoagulant therapy for COVID-19 patients was associated with decreased mortality [3]. Careful review of this study elucidated that the patients received prophylactic, not therapeutic doses of anticoagulation and thus the conclusions drawn by the authors are inaccurate. Another study attempted to elucidate the prevalence of VTE and reported that 25% of 81 patients with COVID-19 had a DVT. Unfortunately, this study is not representative as none of the 81 patients received VTE chemical prophylaxis, making the true prevalence of VTE in these patients unclear [4].

The American Society of Hematology recommends against empiric therapeutic anticoagulation for COVID-19 patients given lack of evidence of benefit and potential harm [5]. High quality prospective studies are required to further elucidate the best way to manage the coagulopathy that we are seeing in patients critically ill with COVID-19. Clinicians must carefully review all published work for validity before changing practice or guidelines. Hospitals must establish safe ways to aggressively test for the presence of VTE in these patients to inform therapeutic anticoagulation, focusing on minimizing exposure of healthcare workers to the virus. Dedicated imaging machines located close to patients with COVID-19 can help improve the ability to rapidly diagnose and treat VTE in patients with COVID-19.

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Declaration of competing interest

Author YYG has no conflicts of interest pertaining to this manuscript.

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