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Inaccurate conclusions by Tang and colleagues

I read with interest the study by Tang and colleagues, published March 27, 2020, entitled "Anticoagulant treatment is associated with decreased mortality in severe coronavirus disease patients with coagulopathy." Unfortunately, this retrospective study came to conclusions that are inaccurate with the information provided.

The authors use of the word "therapy" implies that patients were given therapeutic doses of anticoagulants; however, doses appear to be most consistent with prophylaxis dosing. The authors report that 94 patients received enoxaparin at 40 to 60 mg/day. They did not specify the route of administration, subcutaneous or intravenous, nor did they specify the percentage of patients that received which dose. The 40 mg/day dose of enoxaparin given subcutaneous is the prophylactic dose. The 60 mg/day intravenous dose would be therapeutic for patients weighing 40 kg, which is not a typical weight for an adult patient.

Review of the aforementioned suggests that the authors are really presenting data demonstrating that hospitalized COVID-19 patients should be on venous thromboembolism (VTE) prophylaxis, a position that should be unanimously supported as standard of care based on prior research that suggests that 11% of patients would develop VTE.¹ This has recently 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 VTE. I am aware of just one study to date that attempted to elucidate the prevalence of VTE.³ This retrospective study reported that 25% of 81 patients with COVID-19 had a deep vein thrombosis (DVT). It is important to note that none of the 81 patients received VTE chemical prophylaxis and the authors of that study did not mention whether patients received mechanical prophylaxis either. At my institution, we have diagnosed several critically ill COVID-19 patients with acute lower extremity DVTs with point-of-care ultrasonography. These patients developed DVTs despite chemical VTE prophylaxis.

The American Society of Hematology recommends against empiric therapeutic anticoagulation for COVID-19 patients given lack of evidence of benefit and potential harm.⁴ As the world fights this pandemic, 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. Hospitals will need to establish safe ways to aggressively test for the presence of VTE in these patients to inform therapeutic anticoagulation, focusing on minimizing exposure of health care workers to the virus.

CONFLICT OF INTEREST

None.

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REFERENCES

1. Barbar S, Noventa F, Rossetto V, et al. A risk assessment model for the identification of hospitalized medical patients at risk for venous thromboembolism: the Padua Prediction Score. *J Thromb Haemost.* 2010;8:2450-2457.
2. Thachil J, Tang N, Gando S, et al. ISTH interim guidance on recognition and management of coagulopathy in COVID-19. *J Thromb Haemost.* 2020;18:1023-1026.
3. Cui S, Chen S, Li X, et al. Prevalence of venous thromboembolism in patients with severe novel coronavirus pneumonia. *J Thromb Haemost.* 2020;18:1421-1424.
4. American Society of Hematology online publication March 27, 2020. <https://www.hematology.org/covid-19/covid-19-and-vte-anticoagulation>

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