A rare care of post covid thromboembolic disease involving both arterial and venous system

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ABSTRACT

The severe acute respiratory syndrome coronavirus disease (COVID-19) pandemic is caused by the novel severe acute respiratory syndrome coronavirus 2 and is affecting all civilizations. At present, there is an availability of minimum data highlighting the occurrence of thromboembolism in patients infected with COVID-19. Here, we report a rare case involving a 49-year-old female patient with thrombotic occlusion of the infrapopliteal artery and venous systems associated with COVID-19.

Key words: COVID-19, Coagulation, Severe acute respiratory syndrome coronavirus 2, Thromboembolism

DISCUSSION

Most of the mortality and morbidity were related to cardiovascular disease, hypertension, and diabetes. The patients detected with COVID-19 tend to suffer from mild upper respiratory tract infections. These patients were asymptomatic with mild-to-moderate respiratory discomforts, fever, cough, and flu, according to clinical observation [5-7].

The vascular system plays a major role in morbidity and more importantly, in mortality. COVID-19 appears to be associated with an increased risk of thromboembolic disease. COVID-19 increased thromboembolism risk is thought to be caused by different mechanisms. Patients infected with the novel coronavirus have abnormally high levels of proinflammatory cytokines. This case elucidates why the COVID-19 pandemic results in such poor outcomes for certain people.
The exact mechanism of thrombus occlusion is unknown, but it is hypothesized that the COVID-19 can increase the inflammatory response, hypoxia, immobilization, and disseminated intravascular coagulation (DIC), both of which can increase a person’s risk of arterial and venous thromboembolic disease [8]. In general, viral infections can cause an imbalance between pro-and anticoagulant states during the course of the disease, which often results in the destruction of the vascular endothelium [9].

Various pathways involving the coagulation which causes fibrin clots formation and breakdown of these clots lead to the elevation of D-dimer and fibrin degradation levels, both of which are associated with poor prediction in COVID-19 patients, including the requirement for intensive care unit admission, and mortality [10]. The systemic activation coagulation, together with the immobility associated with bed rest, increased thromboembolism risk in COVID-19 patients [11]. The concept of whether or not to use prophylactic anticoagulation in hospitalized COVID-19 patients to enhance their overall clinical performance remains controversial due to a lack of adequate evidence [9].

This rare case study reports the incidence of arterial and venous thromboembolic events detected by CT angiography with COVID-19. Bhatt and Singh reported a unique presentation of COVID-19 that health-care providers must consider when treating similar patients [2]. According to Brüggemann et al., a major contributor to COVID-19-related complications are hypercoagulability which needs urgent attention for the occurrence of thromboembolic events in such patients [12].

**CONCLUSION**

This case illustrates hypercoagulability as a major contributor to COVID-19-related complications, which may be insufficient to reduce the thromboembolic risk, emphasizing the need to monitor patients with COVID-19 for these events.

**REFERENCES**


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