Superficial Venous Thrombosis in Covid-19: A Benign Entity or Not?

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Introduction

Superficial vein thromboses (SVT) are usually benign. Studies associating SVT to venous thromboembolism are now suggesting that this condition may require treatment when presenting with a hypercoagulable state, such as COVID-19. We present a patient diagnosed with COVID-19 with an SVT that developed a deep vein thrombosis and pulmonary embolism and hemoptysis.

Case

A 53-year-old male recently diagnosed with COVID-19 presented to the emergency department with shortness of breath and left upper extremity swelling and pain. Vital signs were benign; the patient was afebrile and in normal sinus rhythm, though tachypneic on room air. Chest X-ray revealed clear lung fields. Lab studies revealed an absolute lymphopenia and elevated D-Dimer. Physical exam revealed a firm and erythematous left upper extremity from the antecubital region to the mid humorous in the region of the superficial median cubital vein, suggestive of a superficial vein thrombosis. Ultrasound was significant for deep vein thrombosis in the left basilic vein. CT of the chest revealed a right segmental pulmonary embolism (PE). The patient was started on enoxaparin and bridged to warfarin.

Conclusion

Given these data and the hypercoagulable state of COVID-19, it may be reasonable to propose that “benign” presentation of thrombotic disease such as a superficial venous thrombosis in the COVID-19 population may require closer surveillance.

Imaging

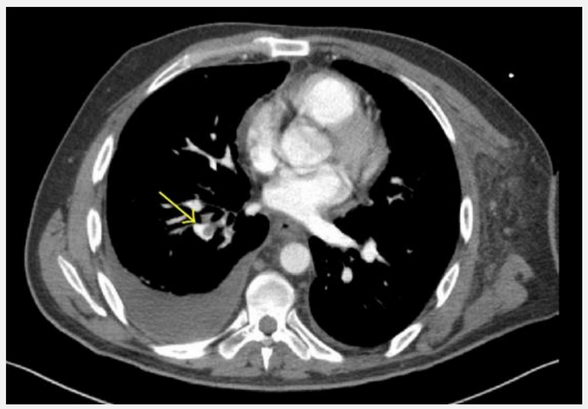

Fig. 1: CT Chest with right segmental PE

Discussion

Superficial venous thromboses form in superficial extremity veins as a result of vessel wall inflammation. Reports on the progression of SVT to DVT and PE have wide ranges of percentages: 6 - 40% and 2 - 13% respectively. The development of DVTs and PEs in patients with SVT is reported to be significantly higher in patients with a hypercoagulable disorder such as malignancy and prothrombotic gene mutations. Hypercoagulability may be associated with SVT in up to 35% of patients, suggesting anticoagulation and workup should be considered.

Imaging

Fig. 2: Left Upper Extremity Superficial Venous Thrombosis

References

1. Di Minno MND, Ambrosino P, Ambrosini F, Tremoli E, Di Minno G, Dentali F. *Prevalence of deep vein thrombosis and pulmonary embolism in patients with superficial vein thrombosis: a systematic review and meta-analysis. J Thromb*
2. *Haemost 2016; 14: 964–72*
3. Hervé Decousus, MD, Isabelle Quéré, MD, Emilie Presles, MD, François Becker, MD. *Superficial Venous Thrombosis and Venous Thromboembolism*
4. Litzendorf, M., *Superficial venous thrombosis: disease progression and evolving treatment approaches*
5. Nasr, H., *Superficial Thrombophlebitis (Superficial venous thromobosis)*
6. Van Rooden CJ, Rosendaal FR, Meinders AE, Van Oostayen JA, Van Der Meer FJ, Huisman MV. *The contribution of factor V Leiden and prothrombin G20210A mutation to the risk of central venous catheter-related thrombosis.*

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