COVID-19 Hypercoagulability Resulting in Lower Limb Amputation

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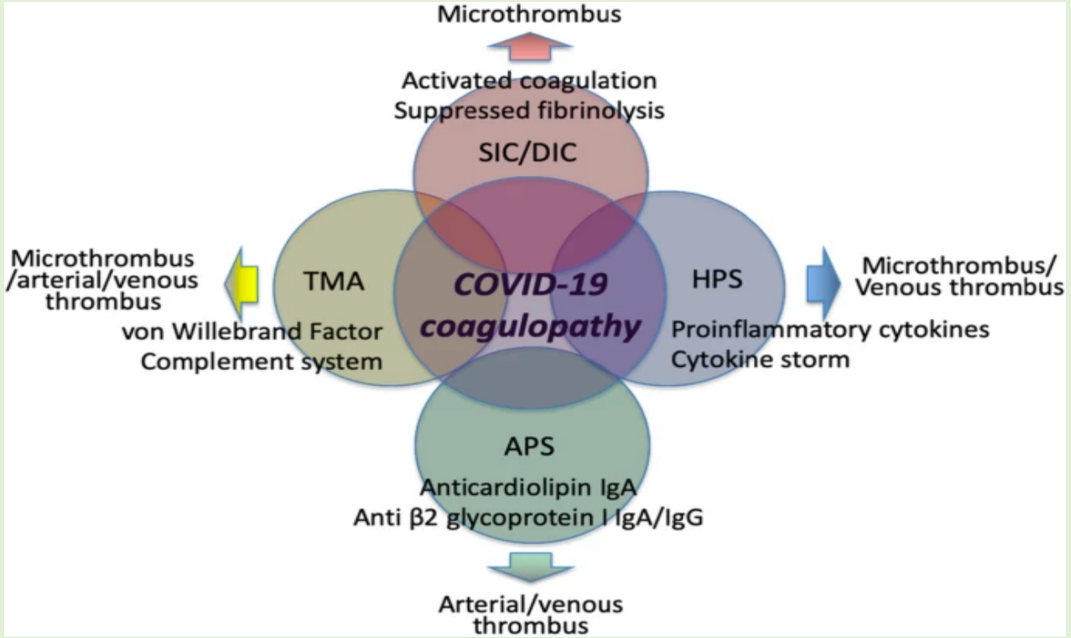
INTRODUCTION

A 65 year-old male with past medical history of type 2 diabetes presented to acute care with one day of right lower extremity paresthesia and calf pain. One week prior to admission, the patient was tested positive for COVID-19. CTA on admission demonstrated multiple areas of acute thrombotic disease including the right common iliac artery, deep femoral artery and popliteal artery. D-dimer elevation was noted. Lupus anticoagulant was positive. Life threatening limb-ischemia was subsequently determined despite intravenous heparin. After decreasing oxygen requirements, the patient underwent right lower extremity iliac artery stent placement and right guillotine transtibial amputation.

COVID-19 HYPERCOAGULABILITY MECHANISM CONCEPTS:



CONCLUSION

COVID-19 has demonstrated a clear association with a hypercoagulable state resulting in both venous and arterial thrombosis. Lower limb arterial thrombosis resulting in limb amputation appears to be a rare occurrence in the literature thus far. Awareness of COVID-19 risk of arterial thrombosis is warranted. The mechanism and management of this process remains in question. Further investigation to improve early detection, limb salvage and overall survival of this complication is justified.

DISCUSSION

Although COVID-19 is known for its predominantly respiratory sequalae, coagulopathy has continued to emerge to be a debilitating and lethal complication. Most reports on the high incidence of COVID-19 thrombotic complications are in relation to deep venous thrombosis and pulmonary embolisms. Arterial thrombosis resulting in limb amputation is less cited with minimal clarity in the mechanism and guidelines to management. We report a rare case of peripheral arterial thrombosis associated with COVID-19 resulting in acute limb ischemia and subsequent right transtibial amputation. It is likely our patient failed both pharmacological and surgical intervention in the setting of an unpredictable hypercoagulable state from the virus.

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