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☆ **Complex Clinical Cases**

SARS-COV-2 INFECTION AFTER CTEPH DIAGNOSIS ASSOCIATED WITH VASCULAR TISSUE FRIABILITY DURING PULMONARY THROMBOENDARTERECTOMY

Poster Contributions
For exact presentation time, refer to the online ACC.22 Program Planner at <https://www.abstractsonline.com/pp8/#/10461>

Session Title: Complex Clinical Cases: FIT Flatboard Poster Selections -- Covid
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Background: SARS-CoV-2 (severe acute respiratory syndrome coronavirus 2) affects cardiovascular system due to systemic inflammatory cytokine storm¹. Herein we describe pulmonary thromboendarterectomy (PTE) after recent SARS-CoV-2 infection.

Case: 66 year old male with Chronic Thromboembolic Pulmonary Hypertension (CTEPH) and recent SARS-CoV-2 infection was referred to our center for PTE. He underwent PTE 3 months after resolution of his acute SARS-CoV-2 infection. Intraoperatively, blood vessels were very fragile. Inferior vena cava (IVC) was torn creating a 1.5 cm hole during regular pump suction and the walls of the pulmonary arteries except the adventitia were very easily torn. Chronic clot specimen is shown (Figure 3). Histopathology showed thrombus and vascular intimal wall fragments with myxoid degeneration and lymphoplasmacytic infiltrates.

Decision-making: Our patient did not have known risk factors for vascular fragility (Table 1). Although vascular effects of Covid-19 are not entirely understood, there are several case reports showing direct and indirect effects on blood vessels⁴⁻⁷. A case series of 12 patients with lung transplantation for Covid-19 infection showed increased tissue fragility and intraoperative bleeding (25%)⁸.

Conclusion: We highlight an association of COVID infection with vascular fragility and bleeding, emphasizing the importance of clinical diligence when considering and performing PTE after COVID infection.

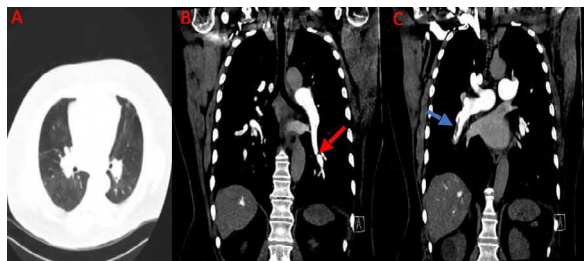


Fig 1. CT Pulmonary angiogram: axial image (A) showing mosaic perfusion pattern and coronal images (B and C) showing left lower lobe pulmonary artery segmental branch stenoses (red arrow) and clot lining proximal right lower lobe pulmonary artery (blue arrow)



Fig 2. Pulmonary angiogram showing proximal bilateral lobar and segmental occlusions (red), post stenotic dilations (blue), and distal pruning (white)

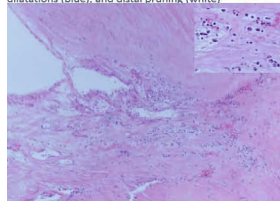


Fig 4. Histopathology: vascular intimal wall fragments with myxoid degeneration, lymphoplasmacytic infiltrates (inset)



Fig 3. PTE chronic clot specimens

Table 1: Causes of Vascular Fragility

Vasculitis (immune mediated, inflammation, infection)
Hereditary connective tissue disorders
Amyloidosis
Cryoglobulinemia
Hypergammaglobulinemia
Vitamin C deficiency
Drugs (chronic steroids, prostacyclin, riociguat)