A Case Report of Acute Bilateral Pulmonary Embolism in a Patient with B12 Deficiency

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Introduction
• Vitamin B12 deficiency typically presents with anemia and neurologic manifestations.
• In rare cases, it can present with uncommon clinical manifestations, making diagnosis challenging.

Objective
• Here, we report a case of a patient who presented with unprovoked bilateral pulmonary embolism (PE) and was subsequently diagnosed with severe vitamin B12 deficiency.

Case Presentation
• A 60-year-old male with history of hypertension presented with dyspnea for one week associated with lightheadedness.
• Patient denied fever, chills, cough, night sweats, or chest pain.
• Patient denied recent travels, surgeries, or immobilization.
• Vitals: T 98.6°F, BP 128/70 mmHg, HR 86 bpm, RR 18 bpm, and SpO2 94% on room air.
• Physical examination was unremarkable except bilateral lower extremity edema.
• Labs: Hgb 5.2 g/dL, MCV 110 fl, MCH 36%, platelets 107,000/µL, D-dimer 2,637 ng/mL, B12 150 ng/mL, homocysteine 158 µmol/L, and methylmalonic acid 9,691 µmol/L.
• Chest X-ray was within normal limits.
• Lower extremity Doppler showed deep vein thrombosis (DVT) in the right popliteal and gastrocnemius veins.

Results
• CT chest revealed PE in both left and right pulmonary arteries (Figure 1, Figure 2).
• Patient was given a B12 IM injection, started on enoxaparin, and bridged to warfarin at discharge.
• Three months later, his symptoms resolved with labs showing a B12 level of 355 ng/mL and a homocysteine level of 11.2 umol/L.

Discussion
• Prior reports have linked B12 deficiency with venous thromboembolism (VTE) but in patients with recent surgery, trauma, pregnancy, or states of endothelial dysfunction such as metabolic syndrome.1-3
• Our patient did not have typical risk factors for VTE, highlighting the need for an increased index of suspicion for vitamin B12 deficiency in the setting of unprovoked DVT.

Conclusion
• Vitamin B12 deficiency is a treatable cause of PE and should be investigated in all patients diagnosed with PE, especially in those with no typical risk factors for VTE.

References