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Case Report: Massive Deep Venous Thrombosis in a Young Female: A Rare and Fatal Presentation of May-Thurner Syndrome

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Abstract : Background: May-Thurner Syndrome (MTS) is a rare vascular condition caused by the compression of the left common iliac vein by the overlying right common iliac artery, leading to venous stasis and an increased risk of deep vein thrombosis (DVT). While MTS typically presents in young adults, its diagnosis is often delayed due to its nonspecific presentation, which can lead to catastrophic complications like massive pulmonary embolism (PE). Early recognition and intervention are paramount to prevent fatal outcomes. Objectives: Highlight the importance of early recognition and management of critically ill patients presenting with life- and limb-threatening conditions. Raise awareness of May-Thurner Syndrome as a rare but significant cause of extensive DVT in young adults. Emphasize the necessity of a multidisciplinary approach to managing complex vascular emergencies. Methodology: A 21-year-old female presented with a 7-day history of progressive left leg swelling, pain, and skin discoloration following immobilization due to gastroenteritis. Clinical suspicion for massive DVT and compartment syndrome prompted immediate initiation of a heparin bolus and referrals to vascular and orthopedic surgery teams. Bedside Doppler ultrasound confirmed extensive DVT, and subsequent CT venography revealed thrombi extending to the inferior vena cava, consistent with MTS. Despite anticoagulation therapy, angioplasty and stenting were required to restore venous patency. Tragically, the patient experienced a massive PE during the procedure, requiring cardiopulmonary resuscitation (CPR) and transfer to a tertiary center for cardiothoracic intervention. Results: The case highlights the aggressive and life-threatening progression of MTS. The patient's presentation was characterized by massive DVT with severe pain and discoloration, rapidly culminating in a PE during intervention. The combination of bedside imaging and CT venography facilitated an accurate diagnosis. Despite timely management, the patient's course underscores the high mortality risk associated with MTS-related thromboembolism. Conclusion: May-Thurner Syndrome, though rare, can lead to devastating complications in young adults if not promptly recognized and treated. This case emphasizes the need for a high index of suspicion in patients presenting with unexplained extensive DVT, especially in the context of limited mobility or other precipitating factors. Multidisciplinary collaboration, including vascular imaging, anticoagulation, and interventional procedures, is critical to optimize outcomes. Urgent recognition and treatment of MTS are vital to prevent progression to massive PE and death.

Keywords : may-thurner syndrome, deep venous thrombosis, pulmonary embolism, vascular emergency, iliac vein compression syndrome
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