

Upper Deep Vein Thrombosis in a Patient with COVID-19 Infection and a Giant Goiter

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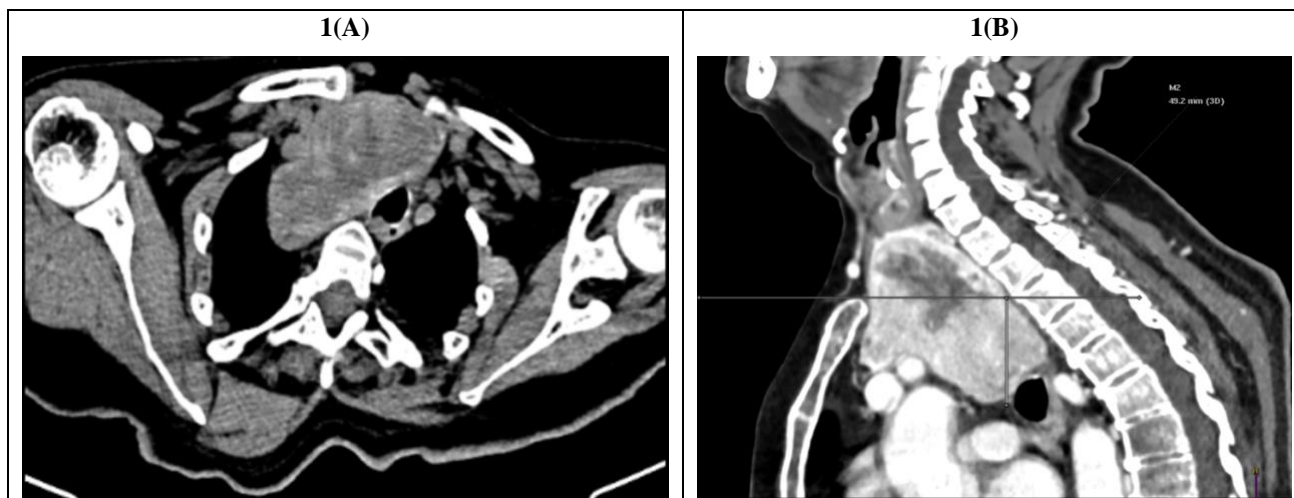


Figure 1: Computed tomography images show (A): multinodular goiter, with predominantly right lobe enlargement with tracheal compression; (B): multinodular goiter occupying mediastinum.

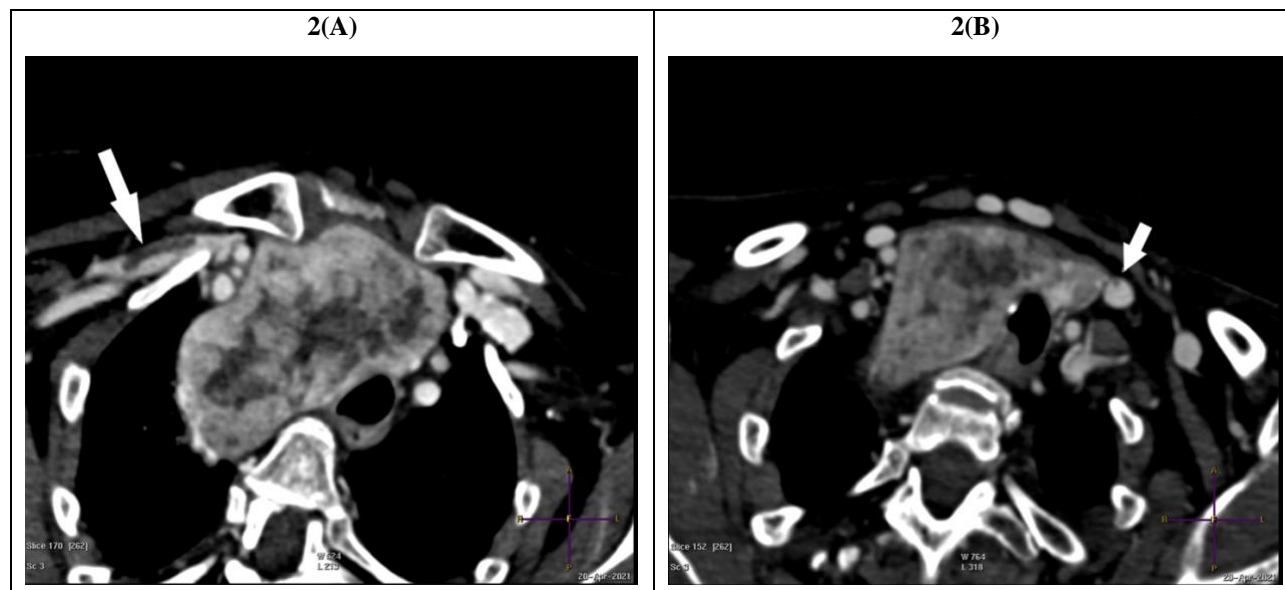


Figure 2: Computed tomography images show (A): thrombosis of right subclavian vein (white arrow); and (B): thrombosis of left internal jugular vein (white arrow).

Clinical Image

During the COVID-19 pandemic, a 74-year-old female was admitted with fever, dyspnea and hypoxemia. The patient required invasive mechanical ventilation. and the computed tomography (CT) revealed bilateral ground-glass opacities, compatible with COVID-19 pneumonia. Dexamethasone and enoxaparin were initiated. A large goiter was palpable and no visible collateral cervical vessels and arms edema were noticed. CT revealed a multinodular goiter with calcification, predominantly right lobe enlargement, extending 4.9 cm below the sternal notch, occupying medium mediastinum, tracheal compression and deviation and esophagus displacement (Figure 1). Acute thrombosis of the right subclavian vein and the inferior segment of the left internal jugular vein were diagnosed (Figure 2). No collateral circulation was seen. Her thyroid function was normal. Before COVID-19 infection, the patient had no symptoms. The patient recovered of COVID-19 and returned asymptomatic after 6 months. Pemberton’s sign was absent. Total thyroidectomy with thoracotomy was scheduled.

Longstanding goiter presents asymptomatic along years and patients affected by COVID-19 infection should present with more severe dyspnea, misdiagnosing a mild viral disease that contributed to the dyspnea or lung commitment with poor oxygenation and severe dyspnea [1]. Hypercoagulability and frequent venous thromboembolic events are seen in COVID-19 [2]. Upper limb deep vein thrombosis is also present in patients with central venous catheters and cancer. In the meantime, patients with goiter may have thrombosis causing superior vena cava syndrome due to obstruction of the thoracic inlet [3]. Nonetheless upper limb deep vein thrombosis is rarely described, probably due to the slow growth of the thyroid, which permits the development of collateral circulation and compensation of venous flux compression. We speculated that COVID-19 pro-thrombotic status combined with low dynamic flow due to the large intrathoracic goiter, particularly in the right side, resulted in the deep vein thrombosis of subclavian and jugular veins in this case.

Keywords: Goiter; COVID-19; Upper deep vein thrombosis

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