Clinical Image

The Utility of Dual-Energy Computed Tomography in the Diagnosis of Pulmonary Thromboembolism Caused by Post-Vertebroplasty Cement: A Case Report

Utilidad de la tomografía computarizada con doble energía, en el diagnóstico del tromboembolismo pulmonar por cemento posvertebroplastia: a propósito de un caso

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We report the case of a 73-year-old woman who had suffered a fall 2 months previously, sustaining a vertebral fracture in T11–T12 requiring vertebroplasty. Fifteen days later, she fell again, requiring thoracolumbar arthrodesis from T9 to L2. Nine days later, she developed sudden onset dyspnea with severe respiratory failure, so an emergency CT pulmonary angiogram was performed, given suspected pulmonary thromboembolism (PTE).

The CT pulmonary angiogram showed high-density images in the subsegmentary pulmonary branches (Fig. 1A) and in the azygos vein (adjacent to the treated vertebrae). Perfusion reconstructions with iodine and vascular mapping were used to differentiate areas of hypoperfusion (Fig. 1B) and cement embolism from endovascular iodine (Fig. 1C).

The incidence of pulmonary embolism caused by cement after vertebroplasty ranges from 2.1% to 26%. It generally occurs with minimal respiratory symptoms that may develop during the procedure, or more commonly, days, weeks or even months later.

Treatment is usually limited to respiratory observation and anticoagulation with low molecular weight heparin, since the presence of intravascular cement can activate the coagulation pathways. Surgical treatment with endovascular embolectomy may also be considered in some cases.

References


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