Superior vena cava syndrome associated with a right-to-left extracardiac shunt


1 Cardiac Imaging Unit, ERESA, Consorcio Hospital General Universitario, Valencia, Spain; 2 Department of Cardiology, Consorcio Hospital General Universitario, Valencia, Spain; 3 Department of Cardiology, Hospital Universitario Infanta Cristina, Badajoz, Spain; and 4 Department of Radiology, ERESA, Consorcio Hospital General Universitario, Valencia, Spain

* Corresponding author. Tel: +34 96197 2000; Fax: +34 96197 2161; E-mail: mpgarcia@eresa.com

A 50-year-old man was admitted to our centre with cellulite in his left leg and dyspnoea. His past medical history included hypertension, diabetes mellitus, dyslipidaemia, stroke without sequelae, left nephrectomy for renal cancer, chronic renal failure on haemodialysis, and a history of a catheter in the right jugular vein for haemodialysis. His blood saturation was 88%. Clinical examination revealed bilateral lung basal crackles and prominent engorged vasculature in the neck and anterior right chest wall. On examination, we also found oedema, heat, and redness in his left leg.

Computed tomographic angiography of the chest was performed for evaluation of dyspnoea, because we suspected the patient had a pulmonary embolism. The contrast was first on the left side of the heart then on the right side of the heart. Coronal reformation images (Panel A) demonstrated complete chronic superior vena cava obstruction (red arrow). Volume-rendered images demonstrated abundant venous collaterals in right chest wall, representing involvement of lateral thoracic collateral pathways (Panels B and C). Contrast in right-sided venous collaterals was extending from chest wall, crossing pleura, subpleural pulmonary veins, and right lower lung lobe before draining into right inferior pulmonary vein (Panels D and E). Connection between the lateral thoracic pathway and pulmonary venous pathway led to a systemic pulmonary shunting (Panel F).

The patient was treated with acenocumarol. This is a rare case of superior vena cava syndrome due to the history of a catheter in the right jugular vein with a right-to-left extracardiac shunt through bridging pleuropulmonary.

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