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CARDIOVASCULAR FLASHLIGHT

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Isolated persistent left superior vena cava draining into the left atrium of an otherwise normal heart

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A 63-year-old male presented with progressive right-sided hemiparesis, facial palsy, and aphasia. He had been scheduled for neoadjuvant chemotherapy for relapsing adenocarcinoma of the left colic flexure, and a left-sided port-a-cath was implanted 7 days ago. The CCT scan revealed several already well-demarcated ischaemic brain lesions. Treatment with aspirin and statin was initiated.

Chest X-ray revealed an unusual left-sided downward course of the port-a-cath catheter to the left atrium. Injection of agitated saline into the left cubital vein showed microbubbles in the left atrium (Panel A). In contrast, injection into the right arm resulted in opacification of the right atrium (Panel B). TEE demonstrated an isolated left-sided superior vena cava draining into the left atrium between the left atrial appendage and the left upper pulmonary vein (Panel C). The innominate vein was absent, while there was normal course of the right superior vena cava. Except for a very small left ventricular diverticulum, cardiac anatomy was otherwise normal. Retrospective analysis of a former thoracic CT scan (Panel D) and MR angiography (Panel E) confirmed the persistent left superior vena cava (PLSVC).

To our knowledge, there has not been described yet an isolated defect of LSVC draining into the left atrium as single anomaly without atresia of coronary sinus, any septal defects and any valvular abnormalities.

PLSVC draining to the left atrium is clinically relevant as it predisposes to paradoxical embolism, particularly in the context of venous injections into the left arm, device implantation, or central vein cannulation from the left side.

Supplementary material is available at *European Heart Journal* online.

