

## The coexistence of persistent left superior vena cava with a left intrathoracic subclavian artery aneurysm

*Persistan sol superior vena kava ve sol toraks içi subklaviyan arter anevrizması birlikteliği*

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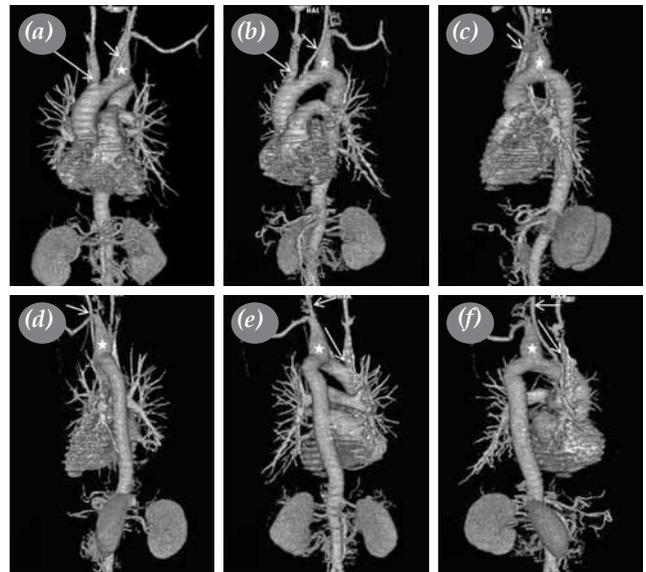
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Persistent left superior vena cava (PLSVC) is the most common form of venous drainage anomaly involving the superior vena cava. A PLSVC is seen in 0.3-0.5% of the normal population<sup>[1]</sup> and 1.5-10% of patients with other congenital heart abnormalities.<sup>[2]</sup> Persistent left superior vena cava initiates at the junction of the left jugular and subclavian veins and drains mostly into the right atrium (92%), with the remainder of the cases draining into the left atrium.<sup>[1,2]</sup>

Subclavian artery aneurysms (SAAs) are infrequently seen and represent less than 1% of all peripheral aneurysms.<sup>[3]</sup> Most patients with SAAs are asymptomatic, but there is a significant risk for rupture, embolization, or thrombosis and therefore should be considered for surgical treatment.<sup>[4,5]</sup> In the literature, we did not find any cases in which these rare conditions coexisted.

A 58-year-old male patient was admitted to our emergency room with complaints of dyspnea and a tendency to sleep. His physical examination revealed tachypnea along with cyanosis, and bilateral crackles were present on lung auscultation. However, an examination of the patient's cardiovascular system was normal. In addition, his medical history was unremarkable except for the fact that he smoked 50 packs of cigarettes per year. Furthermore, there was no history of accident, surgery, or tuberculosis (TB). An arterial blood gas analysis revealed respiratory acidosis (pH: 7.31, PO<sub>2</sub>: 51 mmHg, PCO<sub>2</sub>: 67.3 mmHg, HCO<sub>3</sub>: 33.2 mEq/L, and SO<sub>2</sub>: 83.6%), and we followed up the

patient in the intensive care unit (ICU) by prescribing the use of a noninvasive ventilator. A posteroanterior chest X-ray of the patient revealed right-sided pleural effusion and mediastinal enlargement, and thoracic computed tomography (CT) revealed the coexistence



**Figure 1.** Three dimensional computed tomography angiographic images demonstrating the fusiform aneurysmatic dilatation of the left subclavian artery (asterix) and the corresponding broad-based relationship with the arcus aorta. Short arrow: Left common carotid artery; Long arrow: Innominate artery; Projections: (a) anterior; (b) left anterior oblique; (c) left lateral; (d) left posterior oblique; (e) posterior; (f) right posterior oblique.

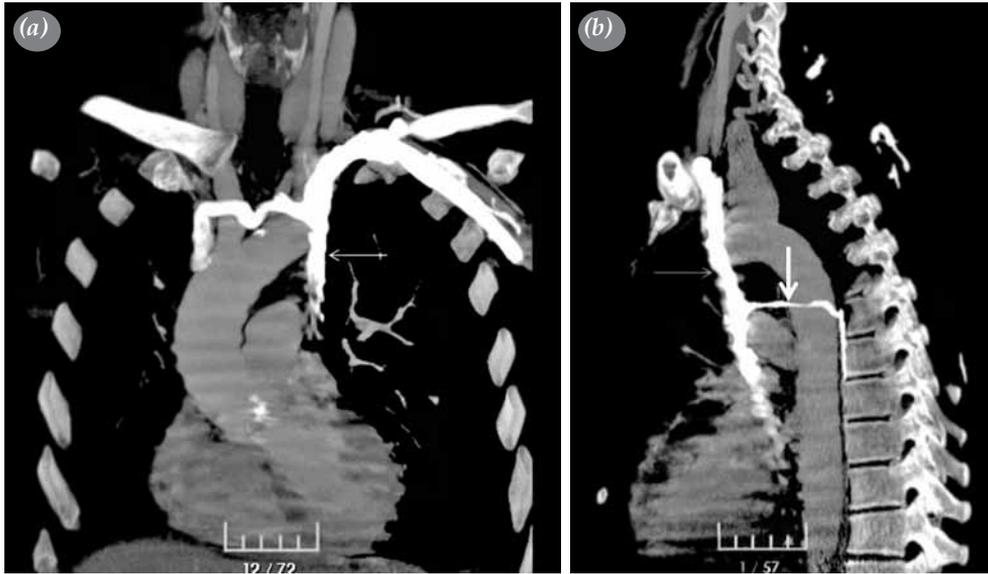


Available online at  
www.tgkdc.dergisi.org  
doi: 10.5606/tgkdc.dergisi.2013.6683  
QR (Quick Response) Code

Received: February 12, 2012 Accepted: May 27, 2012

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**Figure 2.** (a) Contrast-enhanced coronal and (b) sagittal reformation. The maximum intensity projection computed tomography images reveal the persistent left superior vena cava (thin arrow) communicating with the azygos venous system posteriorly (thick arrow).

of an SAA on the left side (Figure 1) as well as PLVCS draining into the left atrium (Figure 2). Laboratory tests were negative for *Treponema pallidum* (*T. pallidum*) in the serum and acid-fast bacilli (AFB) in the sputum. We then performed noninvasive mechanical ventilation to treat the respiratory acidosis. The patient had fewer complaints after this procedure, but hypercapnia and hypoxemia persisted. We believe that this condition occurred due to right-to-left shunt resulting from the PLSVC. Although, the patient was discharged from our clinic with a prescription for long-term oxygen therapy and was referred to a superior center for surgical repair of the defects, we have learned that he had opted not to undergo the surgery because of the risks associated with the operation.

#### Declaration of conflicting interests

The authors declared no conflicts of interest with respect to the authorship and/or publication of this article.

#### Funding

The authors received no financial support for the research and/or authorship of this article.

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