Tuberk Toraks 2012; 60(2): 199-200

Geliş Tarihi/Received: 16/03/2011 - Kabul Ediliş Tarihi/Accepted: 21/04/2011

A case with double vena cava superior discovered during the investigating of persistent cough

Emine ARGÜDER[1], Ali KÖKSAL[2], Burçak GÜMÜŞ[2], Mehmet Kutlu ÇELENK[3]

[1] Bayındır Kavaklıdere Hastanesi, Göğüs Hastalıkları Bölümü, Ankara,
[2] Bayındır Söğütözü Hastanesi, Radyoloji Bölümü, Ankara,
[3] Bayındır Kavaklıdere Hastanesi, Kardiyoloji Bölümü, Ankara.

The superior vena cava (SVC) is a large but a short vein that carries de-oxygenated blood from the upper half of the body to the right atrium. It is formed by left and right brachiocephalic veins (also known as innominate veins) (1). We hereby present a patient who was found to harbor a persistent left, ie, double SVC during investigation of persistent cough.

A 31-year-old non-smoking man presented with a 2 month history of dry cough, rhinorrhea and postnasal drip. He had been seen at an Otorhinolaryngology clinic which prescribed standard sinusitis therapy. Due to lack of relief, he then presented to our clinic. The patient had no symptoms related to other systems. His vital signs were normal and physical examination was unremarkable. Basic laboratory tests were normal, as were his spirometry results. The chest X-ray was normal.

Computed tomography (CT) scan of the chest were obtained to rule out an endobronchial lesion, which unexpectedly demonstrated double SVC, that was subsequently confirmed by bi-cubital contrast administration. The intercommunicating vein was located in its initial part to the left of arcus aorta and pulmonary artery, later on passing to the posteroinferior aspect of the heart before finally entering the right atrium (Figure 1). An echocardiography was interpreted as normal.

SVC anomalies are rare occurrences caused by variations in the development of the embryonic thoracic venous system. Since developmental stages of the latter are fairly complex, many anatomical configurations are possible (2). Persistent left SVC is the most common form. There is a prevalence of 0.5% in the

Figure 1. Left vena cava superior.

Yazışma Adresi (Address for Correspondence):

Dr. Emine ARGÜDER, Bayındır Kavaklıdere Hastanesi, Atatürk Bulvarı No: 201 Kavaklıdere, ANKARA - TURKEY

e-mail: drgullu2000@yahoo.com

general population; which rises to 1.3-5% in patients with congenital heart lesions (3,4).

Definitive diagnosis of double SVC is usually accomplished with invasive angiography, the gold standard. Non-invasively, echocardiography and thorax CT may be useful (5). However, if CT scans are evaluated without proper attention, a SVC duplication can be missed (6).

Compared to normal population, patients with congenital heart disorders, particularly atrioventricular septal defects and double-outlet right ventricle, have a higher risk of having double SVC (5).

Double SVC may be incidentally diagnosed at surgery or autopsy and may be a cause of widened mediastinum on chest radiography. It is usually asymptomatic, unless associated with other cardiac anomalies. In the setting of a right-to-left shunt, cyanosis, sepsis and cerebral abscess may occur (7,8). Unexpected double SVC may give rise to difficulties in venous catheterization, pacemaker insertion or during cardiopulmonary bypass (8,9).

In conclusion, double SVC is seen more frequently than previously thought. When it is encountered fortuitously, other possible congenital defects should be sought with echocardiography, magnetic resonance or CT so as to look for associated conditions and find out whether there is a right-to-left shunt.

CONFLICT of INTEREST

None declared.

REFERENCES

1. *http://embryology.med.unsw.edu.au/Science/ANAT2341-lecture19.htm*
2. *http://sprojects.mmi.mcgill.ca/embryology/cvs/default.html*
3. *Steinberg I, Dubilier W Jr, Lukas S. Persistence of left superior vena cava. Dis Chest 1953; 24: 479-88.*
4. *Fraser RS, Dvorkin J, Rossal RE, Eidem R. Left superior vena cava: a review of associated congenital heart lesions, catheterization data and roentgenologic findings. Am J Med 1961; 31: 711-6.*
5. *Buirski G, Jordan SC, Jofee HS, Wilde P. Superior vena caval abnormalities: their occurrence rate, associated cardiac abnormalities and angiographic classification in a paediatric population with congenital heart disease. Clin Radiol 1986; 37: 131-8.*
6. *Dillon EH, Camputaro C. Partial anomalous pulmonary venous drainage of the left upper lobe vs duplication of the superior vena cava: distinction based on CT findings. Am J Roentgenol 1993; 160: 375-9.*
7. *Rey C, Marache P, Manouvrier J, Ducloux G. Double superior vena cava with drainage of the right superior vena cava into the left auricle. Presentation as a cerebral abscess in an adult. Arch Mal Coeur Vaiss 1986; 79: 1645-8.*
8. *Kaemmerer H, Prokop M, Schirg E, Emter M, Hesel C, Daniel W, et al. Unilateral left superior vena cava in absent right superior vena cava. Modern imaging diagnosis and clinical relevance. Z Kardiol 1994; 83: 386-91.*
9. *Schummer W, Schummer C, Frober R. Persistent left superior vena cava and central venous catheter position: clinical impact illustrated by four cases. Surg Radiol Anat 2003; 25: 315-21.*