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Persistent Left Superior Vena Cava: A Case Report

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ABSTRACT

Persistent left superior vena cava is a rare and benign congenital malformation. It is often asymptomatic, and its discovery is in most cases fortuitous. We report the case of a fortuitous discovery of this malformation in front of atypical chest pain.

Keywords: Persistent left superior vena cava, Left and vein venous systemic, Cardiac abnormality

Abbreviations: PLSVC: Persistent Left Superior Vena Cava; LSVC: Left Superior Vena Cava; TTE: Trans-Thoracic Echocardiography;

INTRODUCTION

Persistent left superior vena cava (PLSVC) is a relatively common anatomical feature. Most often, LSVC drains blood from the upper left of the body to the coronary sinus, which is then dilated. In children and adults, the persistence of a LSVC has no particular consequence.

CASE PRESENTATION

Mr. X, age 15, with no notable pathological history, admitted for atypical chest pain, without abnormal tonic or clonic movements. Physical examination finds a child eutrophic for age. It does not present any thoracic deformity, cyanosis, or clubbing. He has no signs of heart failure. Cardio-vascular examination is normal: there is no breath, no added noise. The neurological examination is normal. The rest of the exam is without abnormality. The electrocardiogram revealed a sinus heart rhythm with no conduction and repolarization disorders. The rhythmic Holter showed signs of vagal hyperreactivity marked by instability of the rhythm and sudden slowing of the heart rate. The chest X-ray showed a double-arched left arch. Trans-thoracic echocardiography (TTE) revealed clear dilation of the coronary sinus and eliminated the presence of cardiac disease. A cardiac CT scan (Figures 1 and 2) confirmed the presence of the left superior vena cava communicating with a dilated coronary sinus that is reflected in the right atrium. The right superior vena cava was not detectable. There is no evidence for abnormal pulmonary venous return and right and left pulmonary arteries are of normal caliber and pathways, converging to a left atrium of normal morphology and size. In addition, the thoracic aorta was normal in these different segments.

RESULTS AND DISCUSSION

Patients are asymptomatic and LSVC is discovered incidentally when performing a catheterization procedure or chest imaging. These findings contrast with those made in the antenatal and neonatal literature, where LSVC is most often presented as associated with other malformations, whether cardiac or extracardiac. It is particularly often associated with obstructive heart disease of the left heart. Decreased blood flow through the mitral valve, by the dilation of the coronary sinus, may be an explanation. In case of associated malformation, karyotype abnormalities are frequent. The meaning to be given to the discovery of a LSVC remains uncertain. Advances in antenatal ultrasound in recent years have made the discovery of LSVC an increasingly common situation.

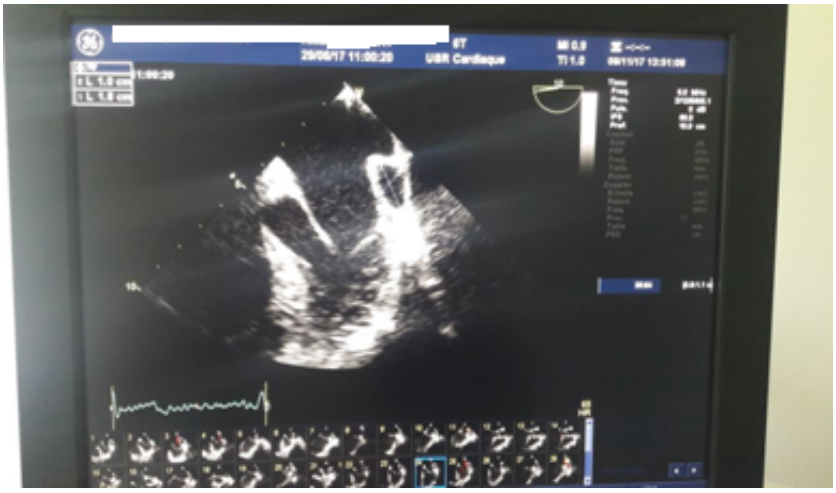

Figure 1 Suspect image clear dilation of the coronary sinus and eliminated the presence of cardiac disease

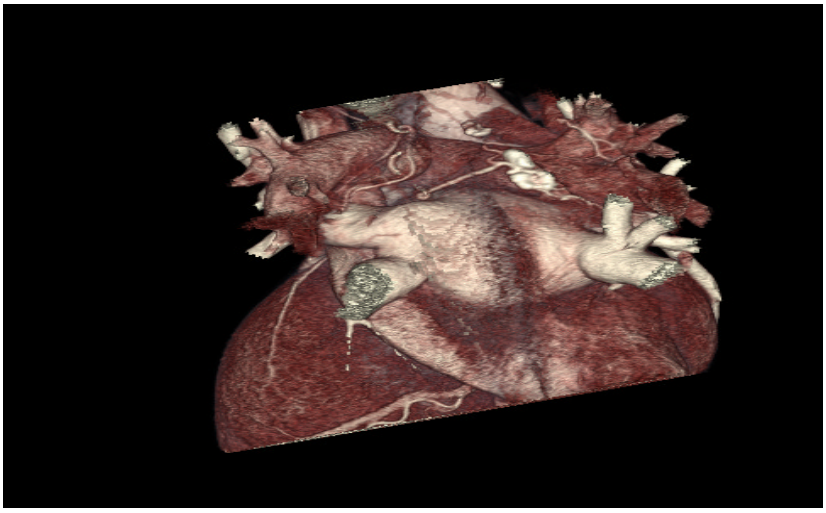

Figure 2 Persistent left superior vena cava in cardiac tomography

PLSVC is a rare organogenesis abnormality due to the persistence of the terminal part of the left anterior cardinal vein, whose involution normally occurs in the sixth month of uterine life [1]. Often, the two superior basal veins are present and often communicate by mediastinal anastomoses or innominate venous trunk. Absence of the right vena cava is extremely rare [2,3], as was the case in our patient, and the left superior vena cava drains all venous blood from the head and upper limbs. This anomaly may be isolated or most often associated with congenital heart disease. In our case, the explorations did not detect any anomalies outside the PLSVC. Apart from more or less complex congenital heart disease, patients with this malformation are often asymptomatic [4]. Diagnosis usually involves coronary sinus dilatation on transthoracic echocardiography or central venous catheterization [5,6]. In some cases, this anomaly can be the cause of cyanosis when the return is made in the left atrium with the risk of paradoxical embolism [5]. The diagnosis is usually fortuitous.

CONCLUSION

Persistent left superior vena cava is a rare abnormality of systemic venous return. His diagnosis should be suspected if a dilated coronary sinus is visualized by TTE and confirmed by cardiac tomography.

DECLARATIONS

Conflicts of Interest

The authors do not declare any conflict of interest.

Author Contributions

All the authors contributed to the development of this work. All authors have read and approved the final version of the manuscript.

Consent for Publication

Written informed consent was obtained from the patient's guardian for publication of this case report and any accompanying images.

REFERENCES

[1] Mathieu, Nicolas. *Veine cave supérieure gauche chez le foetus: significations et intérêt du diagnostic*. Diss. 2011.

[2] Duymus, Mahmut, et al. "Persistent left superior vena cava draining to the left atrium: a case report and review of the literature." *Polish Journal of Radiology,* Vol. 77, No. 4, 2012, p. 65.

[3] Goyal, Sandeep K., et al. "Persistent left superior vena cava: a case report and review of literature." *Cardiovascular Ultrasound,* Vol. 6, No. 1, 2008, p. 50.

[4] Povoski, Stephen P., and Hooman Khabiri. "Persistent left superior vena cava: A review of the literature, clinical implications, and relevance of alterations in thoracic central venous anatomy as pertaining to the general principles of central venous access device placement and venography in cancer patients." *World Journal of Surgical Oncology,* Vol. 9, No. 1, 2011, p. 173.

[5] Morgan, Loren Garrison, Jonathan Gardner, and Joe Calkins. "The incidental finding of a persistent left superior vena cava: Implications for primary care providers-case and review." *Case Reports in Medicine,* 2015.

[6] Nair, Girish M., et al. "Cardiac resynchronization therapy in a patient with persistent left superior vena cava draining into the coronary sinus and absent innominate vein: A case report and review of literature." *Indian Pacing and Electrophysiology Journal,* Vol. 14, No. 5, 2014, pp. 268-72.