

## Partial anomalous pulmonary venous return: a casual finding in many cases

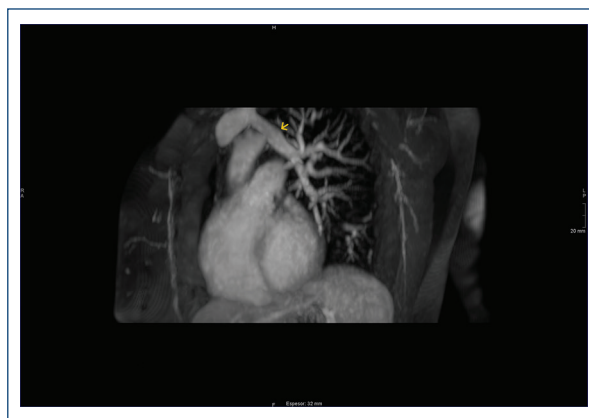
### *Drenaje venoso anómalo parcial: un hallazgo muchas veces casual*

Raúl Ludeña-Martín-Tesorero<sup>1\*</sup>, María Martín-Fernández<sup>1</sup>, Juan Calvo-Blanco<sup>2</sup>, and Rut Álvarez-Velasco<sup>1</sup>

<sup>1</sup>Department of Cardiology; <sup>2</sup>Department of Radiology. Hospital Universitario Central de Asturias (HUCA), Oviedo, Spain

Partial anomalous venous drainage (PAVD) is a congenital heart disease, in which part of the pulmonary venous return occurs at the level of the systemic circulation<sup>1</sup>. It is usually a late diagnosis entity given the absence of symptoms during the pediatric age, occasionally being an incidental finding. Although it can present as a single anomaly, association with aortic coarctation has been described, both isolated and in a syndromic entity such as Turner syndrome<sup>2</sup>.

Chronic volume overload at the level of the right cavities induces changes at the pulmonary endothelial level, which leads in the long term to the development of pulmonary hypertension and symptoms of the right heart failure. Given the slow progression of the disease, the therapeutic approach is complex, and it is necessary to assess clinical and hemodynamic repercussions, as well as patient preferences. We present the case of a patient who underwent a transthoracic echocardiogram in relation to dizziness triggered by intense exercise, a dilated right ventricle was observed, so it was decided to request a cardiac magnetic resource imaging. In it, PAVD is observed in which the left upper lobe vein drains at the level of the brachiocephalic venous trunk (commonly known innominate



**Figure 1.** Oblique maximum intensity projection reconstruction contrast-enhanced magnetic resource imaging angiograph (arrow showing partial anomalous venous drainage).

vein), with preserved RV function and Qp/Qs 1.4 (Figs. 1 and 2).

The management of this type of defects, according to the literature, is individualized based on the symptoms and severity of the shunt, considering surgical correction in symptomatic patients with significant shunt (Qp/Qs > 2)<sup>3,4</sup>.

#### \*Correspondence:

Raúl Ludeña-Martín-Tesorero  
E-mail: rauluden@gmail.com

Date of reception: 14-10-2022

Date of acceptance: 25-03-2023

DOI: 10.24875/ACM.22000242

Available online: 20-10-2023

Arch Cardiol Mex. 2023;93(4):504-505

www.archivoscardiologia.com

2604-7063 / © 2023 Instituto Nacional de Cardiología Ignacio Chávez. Published by Permanyer. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).



**Figure 2.** Maximum intensity projection three-dimensional reconstruction contrast-enhanced magnetic resonance imaging angiography (arrow showing the anomalous drainage).

## Funding

None.

## Conflicts of interest

None.

## Ethical disclosures

**Protection of human and animal subjects.** The authors declare that the procedures followed were in accordance with the regulations of the relevant clinical research ethics committee and with those of the Code of Ethics of the World Medical Association (Declaration of Helsinki).

**Confidentiality of data.** The authors declare that they have followed the protocols of their work center on the publication of patient data.

**Right to privacy and informed consent.** The authors have obtained the written informed consent of the patients or subjects mentioned in the article. The corresponding author is in possession of this document.

## References

1. Humbert M, Kovacs G, Hoeper MM, Badagliacca R, Berger RM, Brida M, et al. 2022 ESC/ERS Guidelines for the diagnosis and treatment of pulmonary hypertension: developed by the task force for the diagnosis and treatment of pulmonary hypertension of the European society of cardiology (ESC) and the European respiratory society (ERS), endorsed by the international society for heart and lung transplantation (ISHLT) and the European reference network on rare respiratory diseases (ERN-LUNG). *Eur Heart J.* 2022;43:3618-731.
2. Singhal K, Newton AD, Corbett C, Predina JD. Management of partial anomalous pulmonary venous connections in patients requiring pulmonary resection: a case report and systematic review. *J Thorac Dis.* 2017;9:5434-9.
3. El-Kersh K, Homsy E, Daniels CJ, Smith JS. Partial anomalous pulmonary venous return: a case series with management approach. *Respir Med Case Rep.* 2019;27:100833.
4. Van den Hoven AT, Chelu RG, Duijnhouwer AL, Demulier L, Devos D, Nieman K, et al. Partial anomalous pulmonary venous return in Turner syndrome. *Eur J Radiol.* 2017;95:141-6.