



IMAGE IN CARDIOLOGY

Total anomalous pulmonary venous return

Retorno venoso pulmonar anômalo total



Pedro Epifânio^{a,*}, Maria Emanuel Amaral^a, Ângela Moreira^b, Dina Rodrigues^a,
António Pires^a, Eduardo Castela^a

^a Hospital Pediátrico de Coimbra, Serviço de Cardiologia Pediátrica, Coimbra, Portugal

^b Hospital Pediátrico de Coimbra, Serviço de Radiologia, Coimbra, Portugal

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Total anomalous pulmonary venous return (TAPVR) is a rare condition, accounting for 1% of all congenital heart disease, with 50% being of the supracardiac and 20% of the cardiac type. The authors describe the cases of two infants with TAPVR and similar clinical manifestations.

Case 1

A three-month-old infant was referred with a diagnosis of lower respiratory tract infection with moderate respiratory distress and cyanosis. Physical examination revealed bilateral pulmonary rales and a low-grade systolic murmur (II/VI) at the upper left sternal (ULS) border. The echocardiogram revealed marked dilation of the right chambers, pulmonary trunk and superior vena cava, and a large atrial septal defect (ASD) with right-to-left shunt. A retroatrial conduit was evident with connection to the innominate vein through a vertical vein. A presumptive diagnosis of supracardiac TAPVR was made.

Case 2

A two-month-old infant with poor weight gain and a systolic murmur was referred for cardiac evaluation. On

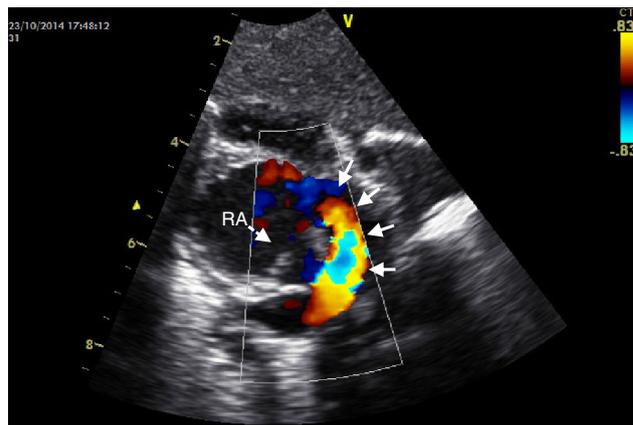


Figure 1 Echocardiogram in modified subcostal short-axis view showing a retroatrial conduit with connection with an enlarged coronary sinus (solid arrows). An atrial septal defect is also visible (dashed arrow). RA: right atrium.

examination he was in moderate respiratory distress and cyanotic, with minimal response to supplementary oxygen. A grade II/VI ULS systolic murmur was present. The echocardiogram revealed a small left atrium, dilated right chambers and pulmonary trunk, and a small ASD with a right-to-left shunt. A retroatrial conduit emptying into the coronary sinus

* Corresponding author.

E-mail address: p.pires.epifanio@gmail.com (P. Epifânio).



Figure 2 Three-dimensional computed tomography reconstruction in posterior view showing four pulmonary veins (solid arrows) draining into a retroatrial conduit (dashed arrows) and then into the coronary sinus (CS).

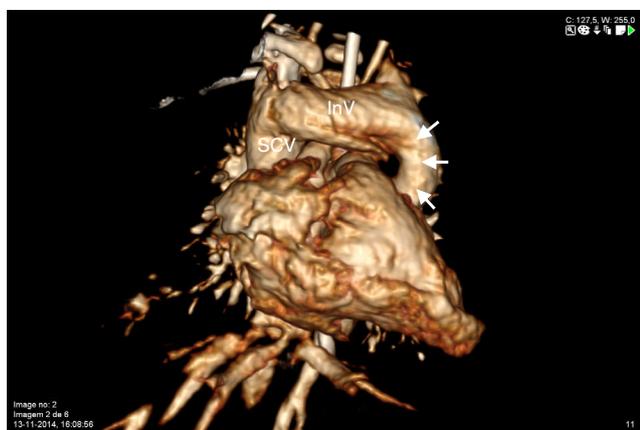


Figure 3 Three-dimensional computed tomography reconstruction in anterior view showing a vertical vein (solid arrows) with direct connection to the innominate vein (InV) and then to the superior vena cava (SCV).

was also evident (Figure 1). These findings were suggestive of a cardiac type TAPVR.

Both diagnoses were confirmed by cardiac computed tomography (Figures 2 and 3).

Successful surgical repair was performed, with subsequent clinical improvement and normalization of right heart chamber dimensions.

Ethical disclosures

Protection of human and animal subjects. The authors declare that no experiments were performed on humans or animals for this study.

Confidentiality of data. The authors declare that no patient data appear in this article.

Right to privacy and informed consent. The authors declare that no patient data appear in this article.

Conflicts of interest

The authors have no conflicts of interest to declare.