

MDCT Diagnosis of Infracardiac Total Anomalous Pulmonary Venous Return

Infrakardiak Total Anormal Pulmoner Venöz Dönüşün MDBT Tanısı

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A 10-hour-old female infant presented with mild cyanosis and tachypnea. On physical examination, a cardiac murmur was not observed. A chest roentgenogram showed diffuse infiltrations with bilateral pleural effusion. Echocardiography revealed that the left atrium was hypoplastic, and none of the pulmonary veins were draining. There was a wide patent ductus and ostium secundum atrial septal defect (ASD). MDCT angiography showed bilateral inferior and superior pulmonary veins joined to a common venous vessel above the diaphragm. This venous structure crossed through the esophageal hiatus and then connected to the left portal vein. The common pulmonary descending vein had narrowed at the portal vein system junction. The right heart, pulmonary trunk, and inferior vena cava were dilated. The left atrium was hypoplastic. There was an ostium secundum ASD and a wide. A diagnosis of total anomalous pulmonary venous return (TAPVR) was confirmed with MDCT, and the patient was referred to emergency surgery. In TAPVR, the pulmonary veins drain in an infracardiac fashion in approximately 25% of cases [1]. The portal vein is usually the affected site. Among the multiple mechanisms of obstruction, increased resistance in the connecting venous structure is the most significant. The pulmonary venous connection to the ductus venosus may not be obstructed during the first days of life; however, the obstruction develops as the ductus venosus closes. In TAPVR, all four pulmonary veins drain into either the systemic veins or the right atrium with or without a pulmonary venous obstruction [2, 3].

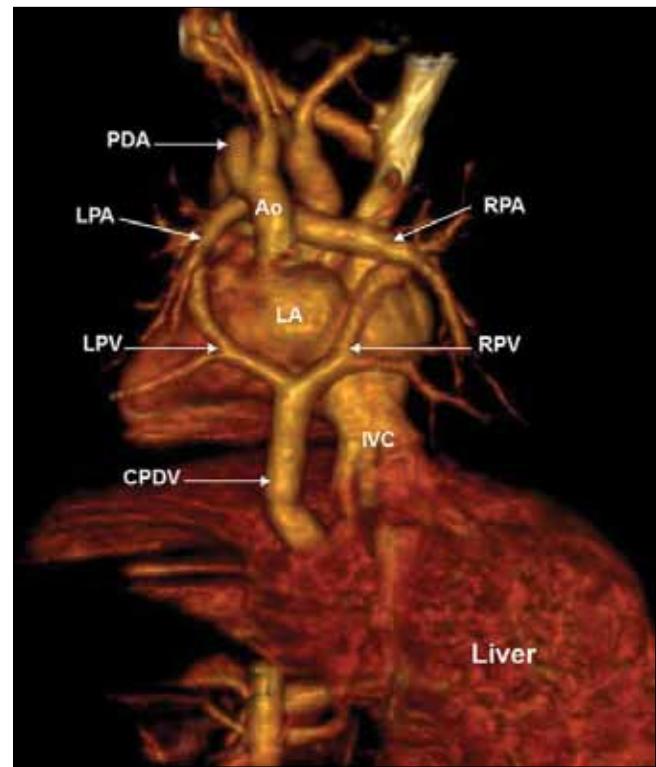


Figure 1. Ao, Aorta; CPDV, common pulmonary descending vein; IVC, inferior vena cava; LA, left atrium; LPV, left pulmonary vein; LPA, left pulmonary artery; RPV, right pulmonary vein; RPA, right pulmonary artery; and PDA, patent ductus arteriosus.

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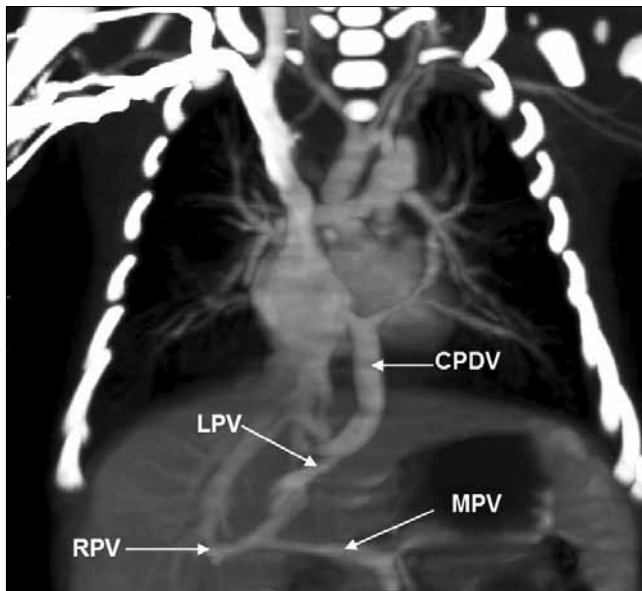


Figure 2. CPDV, common pulmonary descending vein; MPV, main portal vein; LPV, left portal vein; and RPV, right portal vein.

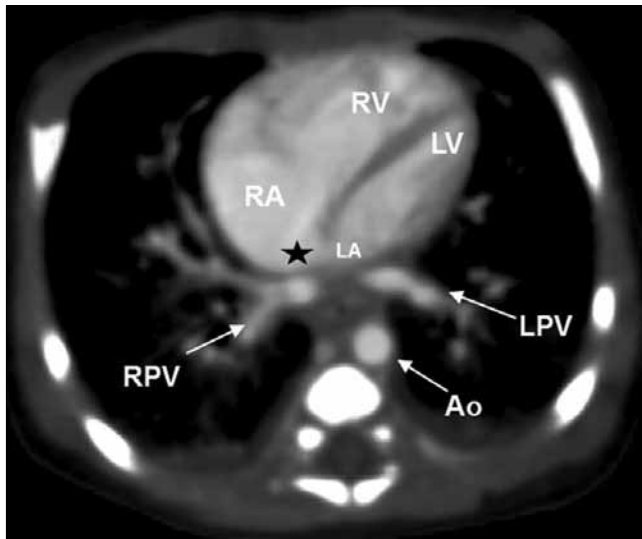


Figure 3. Ao, aorta; asterisk, ASD; LV, left ventricle; LA, left atrium; RA, right atrium; and RV, right ventricle.

Conflict of interest statement: The authors declare that they have no conflict of interest to the publication of this article.

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