ALCAPA syndrome demonstrated by dual-source computed tomography in an infant

Mise en évidence d’une origine anormale de l’artère coronaire gauche à partir de l’artère pulmonaire par scanner bi-tube

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A 9-month-old infant was referred to our paediatric cardiology unit for cardiac insufficiency. An electrocardiogram showed anterolateral ischaemia. Transthoracic echocardiography disclosed a dilated left ventricle, with severe systolic dysfunction and mitral regurgitation. The origin of the left coronary artery could not be seen, raising the possibility of an anomalous origin or coronary atresia.

Dual-source computed tomography performed after the intravenous administration of contrast (12 cc ioprimide at 300 mg/mL) revealed an anomalous origin of the left common coronary trunk from left side of the pulmonary artery and dilatation of the left ventricle (Fig. 1A). The estimated radiation dose for this electrocardiogram-gated acquisition was 0.5 mSv. Anomalous origin of the left coronary artery arising from the pulmonary artery (ALCAPA or White-Bland-Garland syndrome) was confirmed on angiography, which showed retrograde perfusion of the left coronary artery from the right coronary artery (Fig. 1B). Surgical reimplantation of the left coronary artery in the ascending aorta was performed successfully.

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Figure 1. A. Coronary dual-source CT using volume rendering showing anomalous origin of the left coronary artery from the left side of the pulmonary artery (white arrow). B. Cardiac angiography showing retrograde perfusion of the left coronary artery, arising from the pulmonary artery (white arrow).

Ao: aorta; PA: pulmonary artery; LAD: left anterior descending; RCA: right coronary artery.

Conflict of interest

None