—Photogravure—

Multi-row Detector Computed Tomography Coronary Angiogram Image of an Anomalous Left Coronary Artery from the Pulmonary Artery

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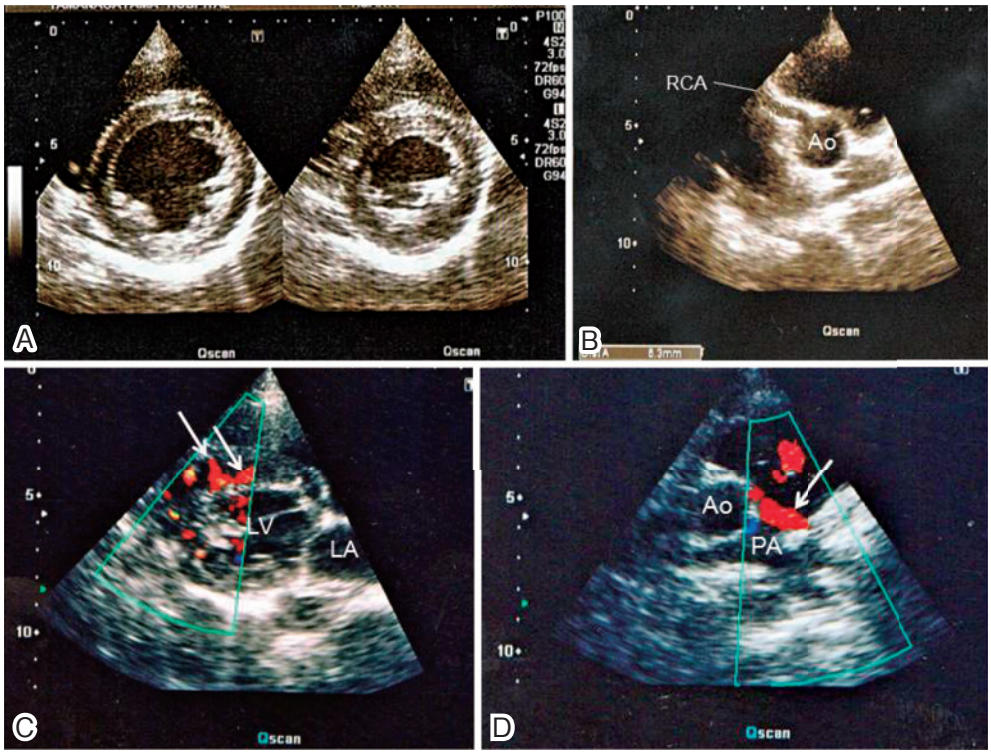

Fig. 1

Multi-row detector computed tomography (MDCT) is considered as effective tool for diagnosing coronary artery anomalies[1]. We describe a case of an anomalous left coronary artery from the pulmonary artery (ALCAPA) in which MDCT coronary angiography was conclusive for an accurate diagnosis.

After riding a bicycle up a long hill, a 13-year-old boy had an attack of syncope lasting several minutes, and he was brought to a nearby medical center by ambulance. He showed no neurological symptoms there, and his head computed tomography appeared normal. However, electrocardiography showed atrial fibrillation, and he was immediately transferred to our center for further examination and treatment. The heart rhythm returned to sinus rhythm during the transfer. Vital signs on arrival were: heart rate, 76/minute; respiratory rate, 40/minute; and blood pressure, 110/53 mmHg. The consciousness level was clear, and no abnormalities were found

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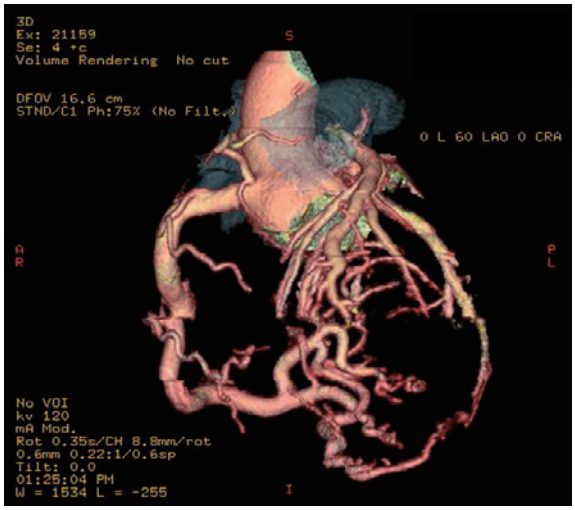

Fig. 2

on physical examination. Results of blood examination were normal, including blood sugar, electrolytes, and troponin T, except for a mildly elevated level of brain natriuretic peptide (52.1 pg/mL). On a chest X-ray image, the heart appeared normal, with a cardiothoracic ratio of 48%. Electrocardiography showed a normal sinus rhythm with heart rate of 70/minute and a corrected QT interval of 0.43. The deep Q wave in aVL, which is a typical finding in ALCAPA[2], was not significant. Echocardiography showing normal left ventricle (LV) size and function (LV diastolic dimension, 48 mm; LV posterior wall thickness, 8.9 mm; and LV ejection fraction, 73%). On the other hand, the right coronary artery was dilated to 6.3 mm, and the left coronary artery was not detected at the expected position. Well-developed collateral arteries were visible between the right and left coronary arteries, and unexpected blood inflow into the pulmonary artery was observed **(Fig. 1)**. Congenital coronary artery abnormalities were suspected, and MDCT coronary angiography was performed. This examination clearly indicated ALCAPA **(Fig. 2)**. Less-invasive MDCT coronary angiography was conclusive for ALCAPA in our case.

Fig. 1 Echocardiogram
Ao: Aorta; RCA: right coronary artery; LV: left ventricle; PA: pulmonary artery; LA: left atrium
A: LV short-axis view. LV function was normal, and dyskinesis was not detected.
B: A dilated RCA (6.3 mm) was observed.
C: Dilated collateral arteries between the right and left coronary arteries were observed **(arrows)**.
D: Abnormal blood inflow into the PA was detected **(arrow)**.

Fig. 2 MDCT Coronary Angiogram
An anomalous left coronary artery from the pulmonary artery was clearly detected. A dilated right coronary artery and well-developed collaterals were also visualized stereoscopically.

References

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