

A man with Bland-White-Garland syndrome after ligation of left coronary artery

Mężczyzna z zespołem Bland-White-Garlanda po podwiązaniu lewej tętnicy wieńcowej

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Anomalous origin of left coronary artery (LCA) from pulmonary artery is a rare congenital abnormality (0.5% of congenital cardiac malformations). Patients die in infancy (in 85% of cases) or suffer from angina, heart failure (HF) or mitral regurgitation symptoms. We present the case of a 21-year-old male, with Bland-White-Garland syndrome, diagnosed and operated after cardiac arrest 4 years ago. He was under cardiovascular ambulatory observation and treatment from the first month of his life because of symptoms of HF. Neonatal viral infection was suspected as the origin of the disease. As a 17-year-old man, he was resuscitated from sudden cardiac arrest after being hit by a ball while playing sport. He was hospitalised and detailed diagnostics were performed. On investigation, transthoracic echocardiography (TTE) and computed tomography (CT) revealed signs of ischaemic cardiomyopathy, with a left ventricular ejection fraction (LVEF) of 29%, dyskinesia in apex and apical and medial anterior wall segments. Cardiac magnetic resonance demonstrated signs of irreversible injury of these segments of left ventricle. CT showed an anomalous LCA originating from the pulmonary artery. Two fistulas connecting LCA with right ventricle were found, too.

The patient was surgically treated with ligation of the origin of the anomalous LCA, without by-pass grafting. After post-operative rehabilitation, he was clinically asymptomatic. He was consulted in the Cardiology Centre, 2 years after surgery, as he was about to take up his first employment. Coronary artery CT showed: post-operative closure of LCA and not previously observed native anastomoses of distal segments of left anterior descending artery (LAD) and right coronary artery (RCA). The RCA was wide, and it supplied collateral vessels around the right ventricle and inferior wall of the left ventricle (Fig. 1). TTE revealed areas of thinned, akinetic apical and medial segments of anterior, antero-septal, infero-lateral and apical segments with LVEF 40%. In a recent evaluation, 4 years after surgery, he remains asymptomatic. Physical examination has not revealed any signs of HF. Electrocardiogram (ECG) has showed: left axis deviation, signs of left ventricular hypertrophy, with secondary ST-T disturbances (Fig. 2). TTE revealed hypertrophic, but not dilated, left ventricle, with akinesis of apical segments: antero-septal and anterior, medial anterior segment and LVEF of 43% (Fig. 3).

This case underlines the value of multi-slice CT in the diagnosis of HF in children and adults with coronary artery anomaly, which is also highly useful in the assessment of adults after surgical treatment of Bland-White-Garland syndrome.

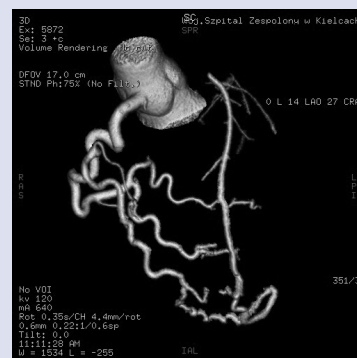


Figure 1. Anastomoses of distal segments of LAD and RCA, and post-operative closure of LCA in a patient with Bland-White-Garland syndrome

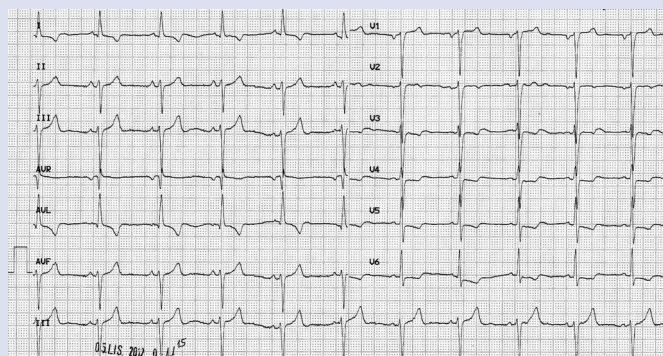


Figure 2. ECG in a patient with Bland-White-Garland syndrome, after ligation of LCA

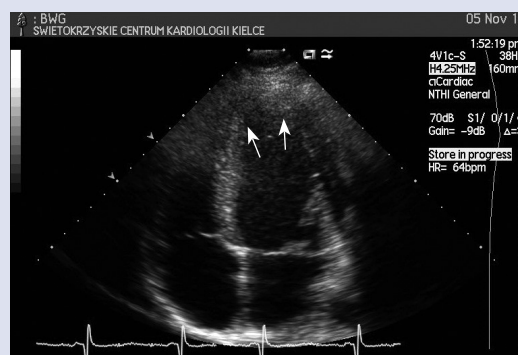


Figure 3. Echocardiography: mild dysfunction of left ventricle (systole; akinetic segment between arrows)

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