Anomalous origin of the right coronary artery from the pulmonary artery coexisting with aortopulmonary window and partial abnormal drainage of the pulmonary vein

Piotr Hoffman1, Piotr Dobrowolski1*, Jerzy Pregowski2, and Mirosław Kowalski1
1Department of Congenital Heart Diseases, Institute of Cardiology, Warsaw, Poland and 2Department of Interventional Cardiology and Angiology, Institute of Cardiology, Warsaw, Poland

*Corresponding author. Tel: +48 22 3434400; Fax: +48 22 343 45 21; Email: p.dobrowolski@ikard.pl

Case report
Anomalous origin of the right coronary artery from pulmonary artery (ARCAPA) is an exceedingly rare congenital pathology. We present a 22-year-old male with a clinical recognition of ARCAPA established earlier by angiography. Repeated evaluation of our Institute discovered associated congenital pathologies—small aortopulmonary window and drainage of the right pulmonary veins to the superior vena cava.

The patient was entirely asymptomatic with no abnormal findings in physical examination. Both standard electrocardiogram and Holter monitoring did not detect any abnormality. The ergospirometry revealed a good exercise capacity with max. VO2- 34.03 mL/min/kg.

The transthoracic echocardiography revealed right coronary artery arising from the main pulmonary artery (Panel 1), whereas left main coronary artery had normal origin. Heart chambers were normal in terms of morphology and function. Colour Doppler demonstrated vigorous flow within the collateral arteries between the left and right coronary artery best seen within the interventricular septum (Panel 2). Computed tomographic angiography confirmed abnormal origin of right coronary artery arising from the pulmonary trunk (Panel 3) and showed left coronary artery arising above the aortic bulb. Diminutive aortopulmonary window located close to the left coronary artery was demonstrated for the first time (Panel 4). The examination disclosed abnormal drainage of the upper and middle lobe pulmonary veins to the vena cava superior (Panel 5).