Single coronary artery anomaly with interarterial left main: caught inbetween

L. Christian Napp¹*, Imke Schatka², Tibor Kempf¹, Udo Bavendiek¹, Frank M. Bengel², and Johann Bauersachs¹

¹Department of Cardiology and Angiology OE 6880, Hannover Medical School, Carl-Neuberg-Str. 1, Hannover 30625, Germany and ²Department of Nuclear Medicine, Hannover Medical School, Carl-Neuberg-Str. 1, Hannover 30625, Hannover, Germany

*Corresponding author. Tel: +49 176 1532 5735, Fax: +49 511 532 5412, Email: napp.christian@mh-hannover.de

An 82-year-old patient with suspected pulmonary hypertension was referred to our department for cardiac catheterization. Right heart catheterization confirmed precapillary pulmonary hypertension. Coronary angiography revealed that the left main (LMCA, arrowhead) originated from the right sinus of valsalva in a common ostium together with the RCA (circle) (Panels A and B, Supplementary material online, Videos S1 and S2). Computed tomography confirmed that the LMCA (arrow) passed between the aorta (AO) and the right ventricular (RV) outflow tract and gave rise to the LAD before running towards the lateral wall as LCX (Panels C and D). Computed tomography confirmed the absence of an additional coronary artery, thus the patient had a congenital single coronary artery anomaly with an interarterial left main.

Single coronary artery anomaly has an estimated prevalence of <0.1% in the general population. Various subtypes are classified depending on the origin and route of coronary arteries. Our patient had subtype RII-B according to the nomenclature published by Lipton et al. in 1979. In cases with an interarterial course, the coronary artery is prone to be compressed between the great arteries. Such patients are at increased risk for myocardial infarction and sudden death even in the absence of atherosclerosis, e.g. during exercise or other situations great artery enlargement such as pulmonary hypertension. Surgical revascularization may be indicated for prevention of sudden death according to current guidelines. In our case, due to the age of the patient we recommended a conservative strategy and advised to avoid intensive physical exercise. Once coronary artery anomalies are found, computed tomography should be performed to unequivocally determine anatomical relations.

Supplementary Material is available at European Heart Journal online.