Successful Treatment of an Unusual Cause of Myocardial Ischemia

Raju Ailiani, MD,* Nilto De Oliveira, MD,§ Daniel Harbin, MD,* Vicki McHugh, MS,‡ Cathy Thompson, RN,* Elaine Sperbeck, RN,* Connie Fogel, RTR,† Christine Clark, RTR(CT),† Karen Harris, RTR(CT),* Ann Christensen, MA†

La Crosse and Madison, Wisconsin

A 42-year-old woman experienced chronic chest pain upon exertion for 5 years. The patient was able to exercise to 10 metabolic equivalents without symptoms or electrocardiographic abnormalities with an exercise echocardiography stress test; however, the echocardiography portion of the stress test revealed inferior wall hypokinesis at peak stress, which is indicative of inducible inferior wall myocardial ischemia. Therefore, multidetector dual source computed tomography coronary angiography was performed and revealed a coronary artery calcium score of 0 with no evidence of atherosclerosis. However, the dominant right coronary artery (RCA) was found to originate from a narrow slit-like opening in the left coronary sinus of Valsalva coursing anteriorly and toward the right with a proximal intramural, interarterial course (A to D). This anomaly accounted for the abnormality on the exercise echocardiogram. The patient was referred for deroofing of the proximal RCA with creation of a neo-ostium (E). Surgery was successful with no unforeseen events (E to G), and the patient had complete resolution of symptoms. LA = left atrium; LAA = left atrial appendage; LCC = left common carotid artery; LMCA = left main coronary artery; LUPV = left upper pulmonary vein; NCC = noncoronary cusp; RA = right atrium; RCC = right common carotid artery; RVOT = right ventricular outflow tract.