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EDITORIAL COMMENT

# Did "Pistol" Pete Maravich Die From Congenital Coronary Artery Disease or Acquired Myocardial Disease?*

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Most congenital coronary artery anomalies have no clinical importance, are asymptomatic, and do not impact longevity. However, specific anomalies (i.e., origin of the left main coronary artery from the pulmonary trunk, aberrant course of the arteries between the great vessels in association with anomalous and slit-like ostium, large coronary artery fistulas) can be associated with sudden death, myocardial ischemia, congestive heart failure, or endocarditis and can create challenges during coronary angiography, percutaneous coronary interventions, and coronary artery and valvular heart surgery.

A single coronary artery originating from an ostium in the right sinus of Valsalva is an unusual coronary anomaly. The left main coronary artery can originate from the proximal right coronary artery (RCA), as it did in the report by Ng et al. (1) in this issue of *JACC: Case Reports*, before dividing into the left anterior descending (LAD) artery and left circumflex (LCx) artery, or there can be separate origins of the LAD and LCx coronary arteries from the proximal RCA. The LAD coronary artery can then either pass anterior to the right ventricular outflow tract, between the aorta and pulmonary trunk, or through the crisa supraventricularis portion of the septum, whereas the circumflex artery can either pass between the aorta and pulmonary trunk or dorsal to the aorta (2).

Alternatively, the LCx coronary artery may originate from the distal RCA with the LCx coronary artery a continuation of the RCA posterolateral artery in the posterior atrioventricular groove and, after the takeoff of the obtuse marginal branches, continue as the LAD in the anterior intraventricular groove. This is an extremely rare form of single coronary anomaly (3) and was the anatomy described in the autopsy of Pete Maravich (4).

Maravich was a renowned basketball player with a complex personal life (5). He established single season and career college scoring records as a player at Louisiana State University from 1967 to 1970, averaging 38 shots and 44 points per game (6). His floppy hair, sagging gray socks, and gangly limbs in an era of conservative basketball helped make him enormously popular with fans. His ball-handling, dribbling, and passing skills were extraordinary at that time, predating what is now expected from star players. He averaged 24 points per game over 10 years as a professional, won 1 scoring title, and was inducted into the Basketball of Fame a year before his death. He helped launch the modern basketball era.

He died suddenly while playing a game of pick-up basketball at 40 years of age, evidently without prior symptoms, and his single RCA anomaly was implicated as the cause of death (4). His autopsy showed an 8-mm RCA, and a 2-mm LAD with normal distribution. Interestingly, the left ventricle showed widespread interstitial fibrosis and patchy scarring, more pronounced in the subendocardium, but the right ventricle was normal. The pathologists speculated that the etiology of the cardiomyopathy was LAD supply and demand ischemia, because the LAD

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was farthest away from the aorta and there was more visible mottling in the LAD territory, but the fibrosis was global.

Although anomalous coronary artery is the second most common cause of sudden death in athletes, the prepulmonic course of the arterial distribution in this case report (1) and in the Maravich autopsy (4) avoids the risk of ischemia associated with an aberrant course between the great vessels. A rudimentary LAD was suggested as the cause of mild distal anterior ischemia on a myocardial perfusion scan in an asymptomatic patient in 1 prior report, but no other reports of this coronary anomaly have shown objective evidence of ischemia on stress testing (3). Therefore, it is most likely that a single RCA arising from the right sinus of Valsalva that does not pass between the great vessels is a benign condition and that Pete Maravich, who performed for years at the highest physical level in a demanding sport, died from subsequent myocardial disease, perhaps from myocarditis, and not from congenital coronary artery disease as previously assumed.

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**KEY WORDS** congenital coronary artery disease, myocardial disease, sudden death