

IMAGES IN INTERVENTION

# Coronary Artery Kinking as a Rare Cause of Ischemia in a Young Woman



## Harmonious Approach Using Intracoronary Imaging and Physiology

So-Yeon Choi, MD, PhD,<sup>a</sup> In-Ho Chae, MD, PhD,<sup>b</sup> Gary S. Mintz, MD,<sup>c</sup> Seung-Jea Tahk, MD, PhD<sup>a</sup>

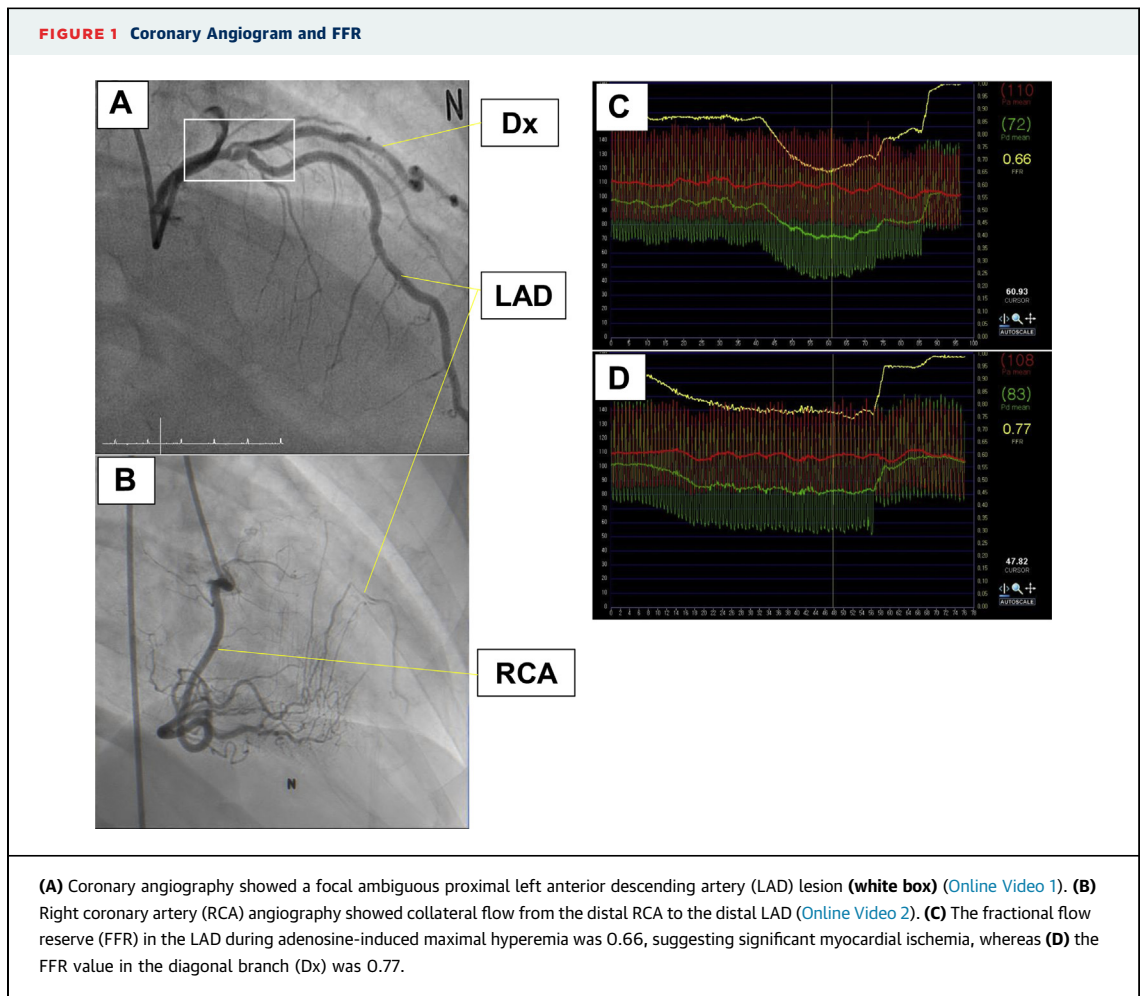
A 47-year-old premenopausal woman presented with effort chest pain for 2 months. She had no cardiovascular atherosclerotic risk factor. Cardiac troponin I level was elevated. Coronary angiography demonstrated a focal ambiguous lesion in the proximal left anterior descending artery (LAD) near to the diagonal branch (which was mildly narrowed at its ostium) with collaterals from the right coronary artery (Figures 1A and 1B, Online Videos 1 and 2). The values of fractional flow reserve obtained during intravenous adenosine-induced maximal hyperemia were 0.66 for the LAD and 0.77 for the diagonal branch (Figures 1C and 1D). Intravascular ultrasound (IVUS) analysis revealed a double contour without atherosclerotic plaque, suggesting vascular folding or kinking rather than an intracoronary lesion in the LAD (Figure 2A, Online Video 3). Optical coherence tomography showed multiple narrowed sites with an irregular lumen (Figure 2B, Online Video 4). Coronary computed tomography angiography revealed no extravascular compression that would have created the lesion (Figure 3A). Percutaneous coronary intervention was successfully

performed with a 3.0 mm × 24.0 mm drug-eluting stent (Coroflex ISAR, B Braun, Melsungen, Germany) and post-dilated using a high-pressure balloon at 20 atm with a good angiographic and IVUS result (Figures 3B to 3D, Online Videos 5 and 6), after which the patient became asymptomatic.

Nonatherosclerotic coronary artery disease is an important cause of myocardial ischemia in young women, but is often missed on coronary angiography (1). We speculate that the LAD lesion in this young woman might be an unusual presentation of coronary fibromuscular dysplasia, one of the pathologies causing nonatherosclerotic coronary artery disease. Fibromuscular dysplasia is typically diagnosed as a multifocal alternating stenosis and dilatation, creating the classic “string of beads” appearance on angiography and is often associated with spontaneous dissection, coronary tortuosity, smooth narrowing, or distal tapering (2-4). Kinking of a coronary artery (and the IVUS pattern seen in Figure 2, panel A2) is most often caused by guidewire straightening and is seen after wiring the vessel rather than pre-intervention.

From the <sup>a</sup>Department of Cardiology, Ajou University Medical Center, Suwon, Republic of Korea; <sup>b</sup>Division of Cardiology, Department of Internal Medicine, Seoul National University Bundang Hospital, Seongnam, Republic of Korea; and the <sup>c</sup>Cardiovascular Research Foundation, New York, New York. Dr. Mintz has received research grant support from Volcano/Philips and St. Jude Medical/Abbott Vascular; honoraria from Boston Scientific, Volcano/Philips, and Infraredx; and has received fellowship support from Boston Scientific. All other authors have reported that they have no relationships relevant to the contents of this paper to disclose.

Manuscript received October 17, 2017; accepted October 24, 2017.



Download English Version:

<https://daneshyari.com/en/article/8663952>

Download Persian Version:

<https://daneshyari.com/article/8663952>

[Daneshyari.com](https://daneshyari.com)