

LETTERS TO THE EDITOR

Standing Waves Are Not Fibromuscular Dysplasia

As physicians who care for a large number of patients with fibromuscular dysplasia (FMD) in our clinical practice, we read with interest the case of fibromuscular dysplasia of the left anterior descending coronary artery by Lluri et al. (1). As the authors correctly reported, FMD of the coronary arteries is infrequent (2–4). However, we are troubled by several aspects of this case.

Most importantly, we do not believe the image that is shown is coronary FMD.

The most frequent angiographic finding of FMD in the coronary arteries is a distal tapering of the arteries and tortuosity (4). Coronary artery dissection in the setting of FMD lesions has also been recently reported (5). The “string of beads” appearance of medial fibroplasia rarely occurs in the coronary arteries, but when it does occur (4,5), it has an irregular appearance with constrictions and dilations, and the “beads” are always larger than the normal caliber of the artery (6).

By contrast, as noted in the figure from the paper by Lluri et al. (1), the oscillations in the artery are regular, suggesting this is most likely due to catheter-induced spasm of the artery, or what is known as standing waves (7). Had the authors given a vasodilator, such as nitroglycerin, these oscillations would completely disappear. As noted by Sharma and Gornik (7), standing waves are often misdiagnosed as FMD. In the presented case of an asymptomatic 40-year-old man with incidental electrocardiographic abnormalities obtained on a screening electrocardiogram, standing waves is the most likely diagnosis (3).

Finally, the authors state in the last sentence of their paper that “FMD is a progressive disease.” We disagree with this statement. Indeed, there is no scientific evidence that medial fibroplasia is a progressive disorder. In fact, several recent papers have suggested otherwise (2,8).

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Please note: Dr. Gornik is a volunteer member of the medical advisory board of FMD Society of America, a non-profit organization.

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Reply

We read with great interest the comments of Drs. Olin and Gornik to our recently published case report (1). However, we would like to take the opportunity to comment on certain aspects.

We agree that the most frequent finding of fibromuscular dysplasia (FMD) in the coronary arteries is a distal tapering of the arteries and tortuosity (2). However, in the same reference that Drs. Olin and Gornik refer to, proximal and middle thirds of the left anterior descending coronary artery have been previously reported (3). Also, as seen in the same report, it is not easy to draw conclusions with regard to the “beads” caliber. Furthermore, as we discussed in our case report, FMD is a pathological diagnosis, and we do not have any tissue diagnosis to confirm our hypothesis. Hence, it is possible that standing waves is in the differential diagnosis. However, despite a very busy practice in our catheterization laboratory, we are puzzled as to why standing waves is something that we commonly have not observed before. In addition, despite recent data suggesting that this condition is not progressive, there are several papers that report that FMD is a progressive condition (4,5). Hence, we agree that continuing further research is needed to further elucidate such questions.

Finally, we are always eager to read and learn from the experience of Drs. Olin and Gornik on this challenging but very interesting condition.

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