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IMAGES IN INTERVENTION

Fibromuscular Dysplasia of the Left Anterior Descending Coronary Artery

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A 40-year-old man with no known past medical history was admitted for severe depression. A 12-lead electrocardiogram was obtained before electroconvulsive therapy, which revealed ST-segment elevations in V_2 to V_3. The patient denied any symptoms. Physical examination was unremarkable. Cardiac biomarkers were not elevated. Coronary angiography demonstrated beading of the left anterior descending artery (Fig. 1), suggestive of fibromuscular dysplasia (FMD).

Fibromuscular dysplasia is an idiopathic, non-atherosclerotic, and noninflammatory vasculopathy affecting small- to medium-sized arteries (1). The renal arteries (60% to 80%) and cervicocranial arteries (20% to 30%) are most commonly involved. However, approximately one-quarter of patients have more than 1 site affected. Overall, FMD is a rare disease with an incidence of 1% and 0.5% of renal arteries and carotid arteries, respectively. Fibromuscular dysplasia is characterized by a fibrous or fibromuscular thickening of the vessel wall affecting, medial, intimal, and adventitial layers at varying degrees (2). Regardless of the type of FMD, the disease can cause dissection, rupture, or

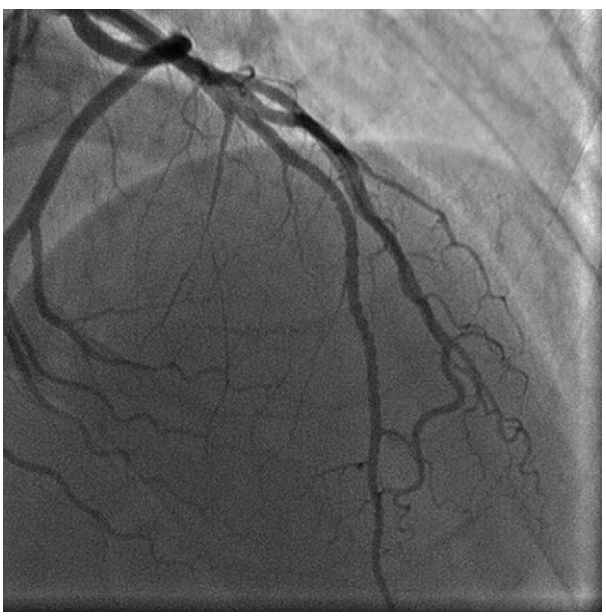

Figure 1. Fibromuscular Dysplasia of the Left Anterior Descending Coronary Artery

Coronary angiography of the left arterior descending artery system showing beading in the middle and distal portions of the artery.

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occlusion leading to a wide range of clinical presentations and even death. Fibromuscular dysplasia of the coronary arteries has only rarely been described, since the first report of 2 probable cases in 1965 (3). The presentation, similar to other vascular beds, depends on the degree of luminal narrowing in addition to possible thrombotic occlusion or spontaneous dissection. However, among cases describing FMD in the coronary arteries, most of them describe involvement of the small coronary arteries rather than large epicardial ones (4). Ultimately, FMD is a pathological diagnosis, and we do not have any tissue diagnosis to confirm our hypothesis. In the absence of tissue diagnosis, imaging of other vascular beds by other means could have been instructive; however, in the absence of symptoms, this was not pursued. However, because FMD is a progressive disease, regular and careful follow-up is necessary in such patients.

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