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Letter to Editor

Mid-Ventricular Ballooning in Atherosclerotic and Non-Atherosclerotic Abnormalities of the Left Anterior Descending Coronary Artery

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Myocardial coronary bridging [1], encasement [2], and mid-LAD rigid straightening [3-5] appears to be epiphenomenon of takotsubo syndrome [6], rather than causing the disease. Typical takotsubo syndrome usually lasts only a few weeks, but chronic takotsubo cardiomyopathy is reported [7].

In a series of meanwhile 10 cases rigid straightening of the mid-portion of the left anterior descending coronary artery without lumen reduction mid-ventricular or basal ballooning was reported, or both basal and mid-ventricular ballooning in one case [4]. In all these patients wrap-around (recurrent segment) phenomenon of the left anterior descending coronary artery was not present. The abnormalities of the left anterior descending coronary artery are due to myocardial bridging without lumen reduction of the LAD, only seen in computed tomography [3]. When stress or in some cases happiness appears myocardial ballooning can appear, lasts 2-4 weeks and disappear with a recurrence rate of nearly 10% despite beta blocking agents [8].

Here we report a case of typical mid-ventricular ballooning in an atherosclerotic high-grade lesion of a small left anterior descending coronary artery with normally contracting apical segment of the left ventricle. A 58-year old male patient suffered from chest pain and was submitted to a hospital without coronary angiography facilities. ECG was normal; troponin rise was relevant. The patient was transported into a hospital with the possibility of prompt coronary angiography.

Left ventricular and coronary angiography was done short after reaching the hospital with coronary angiography facilities.

Left ventricular angiography revealed typical mid-ventricular ballooning with a normal contracting apical segment. The very small left anterior descending coronary artery revealed a proximal high-grade stenotic lesion with insignificant abnormalities of the circumflex and right coronary artery. The high-grade stenosis war treated by PCI.

This case contradicts the opinion of relevant authors who did not see any case of mid-ventricular ballooning in atherosclerotic lesions. When mid-ventricular ballooning can be detected in atherosclerotic lesions of the very small LAD not reaching the apex it is discussable whether rigid straightening of the left anterior descending coronary

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artery of takotsuko syndrome is only an epiphenomenon, but not the cause of mid-ventricular ballooning. Myocardial bridging without lumen reduction, only seen in computed tomography, can be the cause of sudden cardiac death or chronic form of takotsubo cardiomyopathy [9]. And it can be the cause of takotsubo syndrome if stress or happiness appears and a time-limiting contraction impairment of the left ventricle follows.

In general, myocardial bridging can appear as an anatomical variant in normal subjects, patients with coronary artery disease and other cardiac pathologies, and in patients with takotsubo syndrome [6].

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