BRITISH JOURNAL OF HOSPITAL MEDICINE

An insidious coronary arterial pathology diagnosed with an adenosine stress computed tomography perfusion study

Serkan Aribal[1]

Author details can be found at the end of this article

Correspondence to:
Serkan Aribal, serkanaribal@gmail.com

Coronary computed tomography angiography images of a 22-year-old-man suffering from exertional dyspnoea and chest pain showed no stenosal segment through the main coronary tree. After a detailed postprocess on site, a superficial myocardial bridge was seen partially in the long segment of the first diagonal branch (D1) of the left anterior descending artery (Figure 1a). Adenosine stress myocardial computed tomography perfusion imaging was performed, as described by George et al (2009). There was no perfusion deficit in the rest perfusion images derived from the initial coronary computed tomography angiography (Figure 1b), but a clear perfusion defect was shown in the basal anterolateral wall of the left ventricle of his stress perfusion images (Figure 1c). It indicated a reversible perfusion deficit as a result of the myocardial bridge.

Although a myocardial bridge is considered to be a benign condition, the clinical complications, such as ischaemia and acute coronary syndromes, can be dangerous (Rossi et al, 1980). The patient was advised to have a surgical myotomy and accompanying medical treatment with beta-blockers.

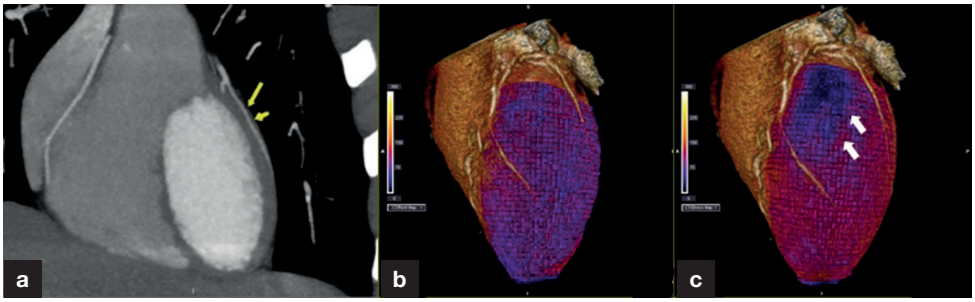

Figure 1. a. Curved multiplanar reconstructed computed tomography angiography showing a long segment superficial myocardial bridge (arrows) in the first diagonal branch (D1) of the left anterior descending artery. b. Normal perfusion deficit in polar map fused 3D volume-rendering image of rest perfusion study derived from his initial coronary computed tomography angiography. c. Note the perfusion deficit (arrows) in basal anterolateral wall of the left ventricle in perfusion polar map fused 3D volume-rendering images of the adenosine stress myocardial computed tomography perfusion study.

Author details

[1]Department of Radiology, Okmeydanı Training and Research Hospital, Istanbul, Turkey

References

George RT, Arbab-Zadeh A, Miller JM et al. Adenosine stress 64- and 256-row detector computed tomography angiography and perfusion imaging: a pilot study evaluating the transmural extent of perfusion abnormalities to predict atherosclerosis causing myocardial ischemia. Circ Cardiovasc Imag. 2009;2(3):174–182. https://doi.org/10.1161/CIRCIMAGING.108.813766

Rossi L, Dander B, Nidasio GP et al. Myocardial bridges and ischemic heart disease. Eur Heart J. 1980;1(4):239–245. https://doi.org/10.1093/oxfordjournals.eurheartj.a061125

How to cite this article:
Aribal S. An insidious coronary arterial pathology diagnosed with an adenosine stress computed tomography perfusion study. Br J Hosp Med. 2020. https://doi.org/10.12968/hmed.2020.0172