International Journal of Medical Science and Clinical Research Studies

ISSN(print): 2767-8326, ISSN(online): 2767-8342

Volume 05 Issue 02 February 2025

Page No: 306-307

DOI: https://doi.org/10.47191/ijmscrs/v5-i02-20, Impact Factor: 8.188

Acute Myocardial Infarction in the Inferior Wall in a Patient with Anomalous Origin of the Right Coronary Artery

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ABSTRACT

64-year-old man with a history of non-reperfused acute myocardial infarction 11 yearspreviously, type 2 diabetes and systemic arterial hypertension. His condition began whileperforming moderate physical activity with oppressive chest pain in the left shoulder,intensity 6/10, with radiation to the precordial region accompanied by diaphoresis, dizziness,fainting and nausea that led to vomiting of gastroalimentary content on one occasion, so hewent to the second level hospital where an electrocardiogram was performed with evidenceof acute myocardial infarction with ST segment elevation in the inferior wall, managementwas started with acetylsalicylic acid 300 mg, clopidogrel 300 mg, atorvastatin 80 mg,enoxaparin 30 mg IV , with subsequent thrombolysis based on Tenecteplase 30 mg, meetingclinical and electrocardiographic criteria for successful lysis, requesting transfer to a thirdlevel unit for pharmacoinvasive strategy. Coronary angiography was performed, documentingchronic total occlusion of the circumflex artery with TIMI flow 0, left coronary artery (LCA)with proximal obstructive lesion of 60% without affecting flow, and right coronary artery(RCA) could not be cannulated (Fig. 1A), so the procedure was terminated. Based on theaforementioned findings, coronary angiography was requested (Fig. 1B,C) which showed:coronary arteries with atherosclerotic disease corresponding to CAD-RADS 5, right coronaryartery with anomalous and high origin, 38 mm from the valvular plane in the anterior and leftwall of the ascending aorta with a short interarterial path of 16 mm, at the junction of theproximal and middle segments mixed plaques in tandem with high-risk signs that causeocclusion and subocclusion. Another distal mixed plaque with high-risk signs and 70%stenosis and thinning (3 mm) of the inferolateral wall of the basal and middle third withsubendocardial calcification probably related to an old infarction in the circumflex territory.Therefore, coronary angioplasty was contraindicated due to the risk of vascular injury,optimal medical treatment was started and the patient underwent cardiac revascularization surgery

KEYWORDS: Congenital Heart Diseases, Coronary Artery, Sudden Cardiac Death

ARTICLE DETAILS

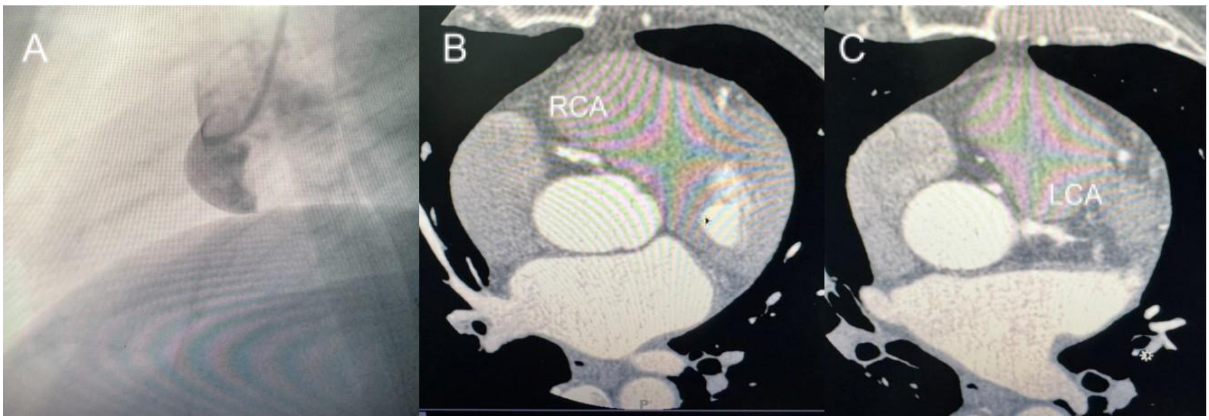
Published On:
18 February 2025

Available on:
https://ijmscr.org/

CLINICAL CASE

64-year-old man with a history of non-reperfused acute myocardial infarction 11 years previously, type 2 diabetes and systemic arterial hypertension. His condition began while performing moderate physical activity with oppressive chest pain in the left shoulder, intensity 6/10, with radiation to the precordial region accompanied by diaphoresis, dizziness, fainting and nausea that led to vomiting of gastroalimentary content on one occasion, so he went to the second level hospital where an electrocardiogram was performed with evidence of acute myocardial infarction with ST segment elevation in the inferior wall, management was started with acetylsalicylic acid 300 mg, clopidogrel 300 mg, atorvastatin 80 mg, enoxaparin 30 mg IV, with subsequent thrombolysis based on Tenecteplase 30 mg, meeting clinical and electrocardiographic criteria for successful lysis, requesting transfer to a third level unit for pharmacoinvasive strategy.

Coronary angiography was performed, documenting chronic total occlusion of the circumflex artery with TIMI flow 0, left coronary artery (LCA) with proximal obstructive lesion of 60% without affecting flow, and right coronary artery (RCA) could not be cannulated (Fig. 1A), so the procedure was terminated. Based on the aforementioned findings, coronary angiography was requested (Fig. 1B,C) which showed: coronary arteries with atherosclerotic disease corresponding to CAD-RADS 5, right coronary artery with anomalous and high origin, 38 mm from the valvular plane in the anterior and left wall of the ascending aorta with a short interarterial path of 16 mm, at the junction of the proximal and middle segments mixed plaques in tandem with high-risk signs that cause occlusion and subocclusion. Another distal mixed plaque with high-risk signs and 70% stenosis and thinning (3 mm) of the inferolateral wall of the basal and middle third with



subendocardial calcification probably related to an old infarction in the circumflex territory. Therefore, coronary angioplasty was contraindicated due to the risk of vascular injury, optimal medical treatment was started and the patient underwent cardiac revascularization surgery.

Congenital coronary artery malformation, which occurs in 0.5-1.0% of the population, is usually diagnosed in adolescence or adulthood due to the lack of obvious symptoms. This anomaly can lead to heart failure, chest pain, or even sudden cardiac death in 15-34% of young people. Treatment of coronary artery anomaly depends on the severity of the anomaly. In mild cases, medications such as beta-blockers and diuretics are used. For more severe or high-risk cases, surgical intervention is recommended, which may include reimplantation or bypass procedures. (1,2)

The prognosis for patients with coronary artery anomaly depends on early detection and appropriate treatment. If diagnosed early, especially in asymptomatic patients, the prognosis can be favorable with preventive surgery. (3)

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