Left atrial mechanical standstill after electrical cardioversion for atrial flutter: a case report

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RECEIVED:
March 28, 2021

ACCEPTED:
April 2, 2021

KEYWORDS: atrial flutter, atrial standstill, electrical cardioversion, prognosis.

CITATION: Cardiol Croat. 2021;16(5-6):199. | https://doi.org/10.15836/ccar2021.199

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Introduction: Atrial mechanical standstill is a rare phenomenon. Electrical function is preserved but atrial contraction is absent. Standard 2D transthoracic echocardiography evaluates isolated left atrial standstill by analyzing pulsed-wave Doppler imaging of mitral valve (MV) inflows and tissue Doppler imaging (TDI) at MV annulus.

Case report: In a 65-year old patient with arterial hypertension and hyperlipidemia electrical conversion of persistent atrial flutter to sinus rhythm was achieved. The patient has had atrial flutter for about a year. He also suffered from COVID-19 pneumonia infection 2 months before being admitted to the hospital. In spite of sinus rhythm after the electrical conversion that was seen on twelve-lead electrocardiography, 48 hours after conversion no mechanical left atrial activity was restored. MV inflow demonstrated normal E wave (passive filling in early diastole) but absent A wave (atrial contraction during late diastole). TDI at the MV annulus also confirmed isolated mechanical LA standstill. There was absence of a' at the MV annulus.

Conclusion: Atrial standstill is condition that may involve impairment of electrical function (electrical silence or an inability to pace or capture), or mechanical function (based on imaging).[1,2] The pathophysiologic mechanism can be the underlying presence of atrial fibrosis, myopathy or it may include interatrial block.[3] The absence of mechanical LA contraction has potential hemodynamic consequences, also there could be the possibility for the thrombus formation within the atria leading to thromboembolism. That is why anticoagulation should be continued.[4]

LITERATURE

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