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Mitral valve prolapse secondary to ischemic cardiomyopathy

Babur Guler G.[1]; Kilicgedik A.[2]; Zencirkiran Agus H.[1]; Kahveci G.[2]

[1]Mehmet Akif Ersoy Heart Hospital, Istanbul, Turkey
[2]Kartal Kosuyolu Heart and Research Hospital, Cardiology, Istanbul, Turkey

Introduction: Mitral valve prolapse is the most common form of degenerative mitral valve disease. However, ischemic mitral valve prolapse is a rare cause of mitral regurgitation. The mechanism was initially thought to be papillary muscle dysfunction, but more complex mechanisms were suggested recently.

Purpose: Try to understand the pathophysiology of ischemic mitral valve prolapse on a case example.

Case Report: A 42-year-old male with a history of inferoposterior myocardial infarction was admitted from outpatient clinic due to NYHA class 3 heart failure symptoms. On physical examination, a 4/6 holosystolic murmur was heard in the apex.

He had a permanent pacemaker implanted for sick sinus syndrome. Transthoracic echocardiography showed 1-global dysfunction of the left ventricle (posterior segment akinetic and thinned), 2- prolapse of the posterior mitral leaflet (suspicion of ruptured chordae) 3-severe mitral regurgitation (with anterior eccentric jet), 4- moderate tricuspid regurgitation and high systolic pulmonary artery pressure (65 mmHg), 5-pacemaker lead in the right heart chambers. 6- normal right ventricular systolic function. Transesophageal echocardiography showed P2 scallop prolapse and chordae were intact, there were no redundant or myxamous components of the leaflets. It was observed that the posteromedial papillary muscle was elongated and did not contract. We commented that these echocardiographic findings represented ischemic mitral valve prolapse. Other echo findings in favour of this hypothesis were the posteromedial papillary muscle prolongation in systole and reduced the free strain of papillary muscle in the the apical long axis view. The patient underwent mitral ring anuloplasty and surgical neocord implantation. Surgery also reported the aetiology as ischemic mitral prolapse secondary to chordal extension in accordance with echocardiography.

Conclusion(s): Ischemic mitral prolapse is a complex pathology involving multiple components of the mitral valve apparatus as left ventricle, papillary muscle, chordae, annulus, leaflets. The diagnostic criteria for ischemic mitral valve prolapse and its management are not defined. The presence of myocardial infarction and the exclusion of other possible valve pathologies with transesophageal echocardiography are important steps in the diagnosis.

Abstract P1689 Figure.