

# Treatment of functional mitral regurgitation – cardiologists' eternal enigma

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**Introduction:** Prevalence of mitral regurgitation (MR) is still increasing in the western world despite the low incidence of rheumatic fever. Due to the complex structure of mitral apparatus pathology at any level can lead to valve dysfunction. Etiology of MR can be divided into primary, where the lesion is within the mitral apparatus, and secondary, which is caused by geometrical alteration of the left ventricle<sup>1</sup>. Secondary or functional MR is considered a disease of the left ventricle which is dilated with distorted papillary muscles preventing normal systolic coaptation of the mitral valve leaflets. Echocardiography is paramount for the diagnosis and evaluation of MR<sup>2,3</sup>. Qualitative, semi-quantitative and quantitative methods should be used for evaluating the severity of MR.

**Case presentation:** 70-year-old patient with a history of myocardial infarction several years ago, was admitted to our Department due to progression of chronic heart failure. He was complaining of shortness of breath at the slightest effort and leg swelling despite diuretics in his therapy. Echocardiogram revealed a dilated left ventricle (LVD 66 mm and 228 ml) with severely impaired systolic function (EF 18%). Due to the dilatation of mitral annulus a severe MR was present (PISA ERO 0.3 cm<sup>2</sup>). Furthermore, the patient had a trabeculated LV with a ratio of noncompacted/compacted myocardium >2 which is consistent with a noncompaction cardiomyopathy. With optimal medical therapy patients' cardiorespiratory status was improved. After recompensation, he was scheduled for a cardiac resynchronization procedure.

**Conclusion:** Secondary MR represents a significant problem for patients with cardiomyopathy. A slow progression of the symptoms is typical for this condition and often ends in irreversible left ventricular dysfunction. In contrast to primary MR which can be managed by surgery, optimal management for secondary MR is much less certain. Despite many surgical and percutaneous treatment options secondary MR is still accompanied by poor long-term survival and its treatment is both challenging and controversial.

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## LITERATURE

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