

### 13. IMPRESSIVE RECOVERY OF HIBERNATING MYOCARDIUM FOLLOWING CORONARY REVASCULARIZATION (CASE REPORT)

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**Introduction.** Myocardial hibernation describes a state of persistently impaired contractility of the myocardium following steady or repetitive ischemia that can be partially or completely reversible.

**Case presentation.** We report the case of a 56-year-old man with a history of grade 2 arterial hypertension, dyslipidemia, and grade 2 obesity. At age 45, he presented a large anterior myocardial infarction for which he underwent coronary angioplasty with bare metal stent implantation of the left anterior descending artery (LAD). At discharge, the patient was completely asymptomatic. Echocardiography revealed normal left ventricular (LV) function, and the patient was started on dual antiplatelet, beta-blocker, angiotensin converting enzyme inhibitor, and statin therapy. After 8 years, the patient was readmitted for chest pain and heart failure symptoms. He admitted having abandoned his treatment 6 years earlier. Echocardiography revealed hypertrophied and slightly dilated LV, with 50% ejection fraction, and hypokinesia of the LV apex and of the middle third of the interventricular septum. Coronary angiography showed severe stenosis of the circumflex artery (Cx), for which a bare-metal stent was implanted. Three years later, the patient was readmitted to hospital for dyspnea and fatigue at mild exertion, and admitted having again abandoned his treatment for the past year. Echocardiography showed 27% LV ejection fraction, and the presence of an apical LV thrombus, for which the patient was started on oral anticoagulation. Coronary angiography revealed three 90% stenosis of the first diagonal, of the Cx, proximal to the stent, and of the right coronary artery (RCA).

**Discussion.** Coronary angioplasty with primary stent implantation of the Cx and RCA was performed, with successful procedural outcome. Three days after the procedure, the patient’s symptoms were improved, and echocardiography showed significant recovery of the LV systolic function, with >60% basal and 45% global LV ejection fraction. Six months later, the patient remained asymptomatic, with 45% LV ejection fraction and no intra-ventricular thrombus on echocardiography.

**Conclusion.** In patients with long history of ischemic heart disease, distinguishing between hibernating myocardium and myocardial infarction sequels, although challenging, is of critical importance, since hibernating myocardium represents a target for revascularization, whereas revascularization of infarcted myocardial areas does not lead to any improvement of cardiac function. In addition, this case emphasizes the importance of patient adherence to medical therapy and of regular cardiologic follow-ups, particularly in high-risk patients, to avoid coronary artery disease progression and consequent impairment in LV myocardial function.