Large myocardial infarction and a severe spasm of the left coronary artery

Introduction

In 1–7% of patients presenting with an acute myocardial infarction the first coronary angiography reveals normal or near normal coronary arteries [1]. Due to the absence of a detectable infarct-related artery, the diagnosis of myocardial infarction has to be based on changes in ECG and cardiac marker elevations only. The new technique of contrast-enhanced cardiac magnetic resonance imaging (ceCardiacMRI) [2] provides additional valuable information in this diagnostic uncertainty.

Case report

A 41-year-old woman was admitted with intermittent angina at rest for more than 24 hours and an anterior ST-elevation infarction in the ECG. Smoking
combined with hormonal contraception was her cardiovascular risk factor. In addition, she had a history of migraine. The immediately performed coronary angiography showed a severe spasm of the left anterior descending artery (LAD) and circumflex artery (CX) (Fig. 1) with impaired antegrade flow (TIMI 2) treated with intracoronary nitroglycerine and verapamil. A thrombotic occlusion or dissection of the coronary arteries could be excluded. The angiographic control at the following day revealed TIMI 3-flow in all coronary arteries without any significant stenosis (Fig. 2). Echocardiography showed an enlarged left ventricle (LV) with severe dysfunction and pericardial effusion. During the hospital course, the total creatine kinase increased to 2786 U/l and troponin T to 13.15 ng/ml. The patient was discharged from the hospital in stable condition (NYHA class I) under medical treatment.