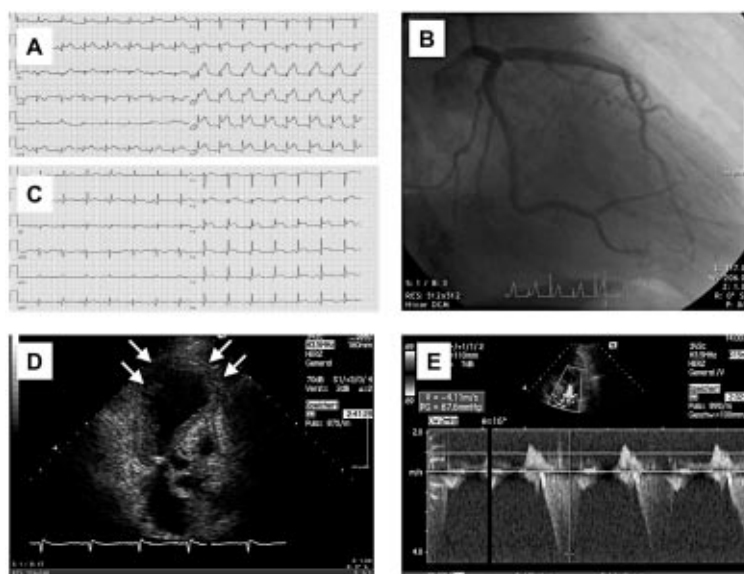


Apical ballooning syndrome



An 80-year old woman who had been admitted to our hospital because of exacerbation of chronic obstructive pulmonary disease suddenly suffered from severe de novo angina pectoris. The ECG showed ST segment elevation in leads II, aVL and V1-V5, suggesting acute anterior myocardial infarction (panel A). Coronary angiography was performed within 40 minutes. During angiography, which showed only a 40% stenosis of the left anterior descending artery (panel B) without any signs of thrombus formation, the patient described sudden amelioration of the chest pain without any coronary intervention. The ST segment elevation diminished significantly within few hours (panel C). Whereas initial transthoracic echocardiography (TTE) upon admission had shown normal left ventricular function, a second TTE one day after the event showed a marked decrease in ejection fraction caused by a large akinetic area in the apex (panel D, indicated by arrows). The left ventricle showed apical ballooning, yielding an intraventricular end-systolic pressure gradient over 60 mmHg (panel E). Enzyme markers of myocardial necrosis were only slightly elevated (CK max 200 U/l, troponin T max 0.37 ug/l), considering the large area of akinesis in the TTE and the pathological ECG changes.

Apical ballooning syndrome (Takotsubo or ampulla cardiomyopathy) was diagnosed. This disorder is characterized by transient dysfunction of the apical portion of the left ventricle, producing ballooning of the apex with systole in the absence of significant coronary artery disease [1, 2]. As expected, the left ventricular dysfunction was fully reversible within five days with no more intraventricular pressure gradient detectable.

Wolfgang Dichtl, Hannes F. Alber, Guy Friedrich, Silvana Müller, Otmar Pachinger, and Thomas Bartel

References

1. Tsuchihashi K, Ueshima K, Uchida T, et al (2001) Transient left ventricular apical ballooning without coronary artery stenosis: a novel heart syndrome mimicking acute myocardial infarction. Angina Pectoris-Myocardial Infarction Investigations in Japan. *J Am Coll Cardiol* 38: 11
2. Abe Y, Kondo M, Matsuoka R, et al (2003) Assessment of clinical features in transient left ventricular apical ballooning. *J Am Coll Cardiol* 41: 737

Key words: Apical ballooning syndrome, ampulla cardiomyopathy, Takotsubo cardiomyopathy, vasospasm.

Correspondence: DDr. Wolfgang Dichtl, Clinical Department of Cardiology, Medical University Innsbruck, Anichstraße 35, 6020 Innsbruck, Austria, E-mail: wolfgang.dichtl@uibk.ac.at