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STUDIUM PRZYPADKU / *CLINICAL VIGNETTE*

Coronary artery spasm in the early phase of tako-tsubo cardiomyopathy: is this a primary cause of the disease?

Skurcz wieńcowy we wczesnej fazie kardiomiopatii tako-tsubo: czy to pierwotna przyczyna choroby?

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A 58-year-old female with hypertension was admitted to the cardiology department due to a 4-h chest pain and electrocardiographic changes suggesting an acute coronary syndrome without ST-segment elevation. The symptoms were preceded by emotional stress at work, i.e. a quarrel with her boss. She had no history of prior angina or myocardial infarction and no family history of heart disease. Immediate coronary angiography revealed a significant diffuse stenosis in the mid and distal portions of the left anterior descending artery (LAD) with a preserved minimal flow (Fig. 1A, E — arrows) and no other coronary changes (Fig. 1A, B). Ventriculography showed balloon-like left ventricular motion abnormalities (Fig. 1C, D). Intracoronary application of nitroglycerin (1 mg bolus) and adenosine (50 μg bolus followed by 100 μg boluses) had no effect on LAD angiogram. One hour later, the chest pain had almost resolved, however repeated coronary angiography revealed the same LAD picture despite nitroglycerin intravenous infusion and additional intracoronary applications of both nitroglycerin and adenosine — verapamil was not used due to significant sinus bradycardia. On the 3rd day, the contraction abnormalities disappeared on echocardiography. Peak creatine kinase-MB and troponin-T levels were 57.03 ng/mL and 1.42 μg/L, respectively. Additional coronary angiography, performed on the 13th day, showed a complete resolution of the previous LAD changes (Fig. 1F). Finally, tako-tsubo cardiomyopathy was diagnosed. An alternative diagnosis could have been vaso-spastic angina in this case; however, the patient had not previously presented any symptoms of angina but the clinical picture met all commonly recognised clinical criteria for tako-tsubo cardiomyopathy — moreover, during a 3-year follow-up period, she had no symptoms of heart disease. This case suggests that coronary spasm may play a role in the pathogenesis of tako-tsubo cardiomyopathy.

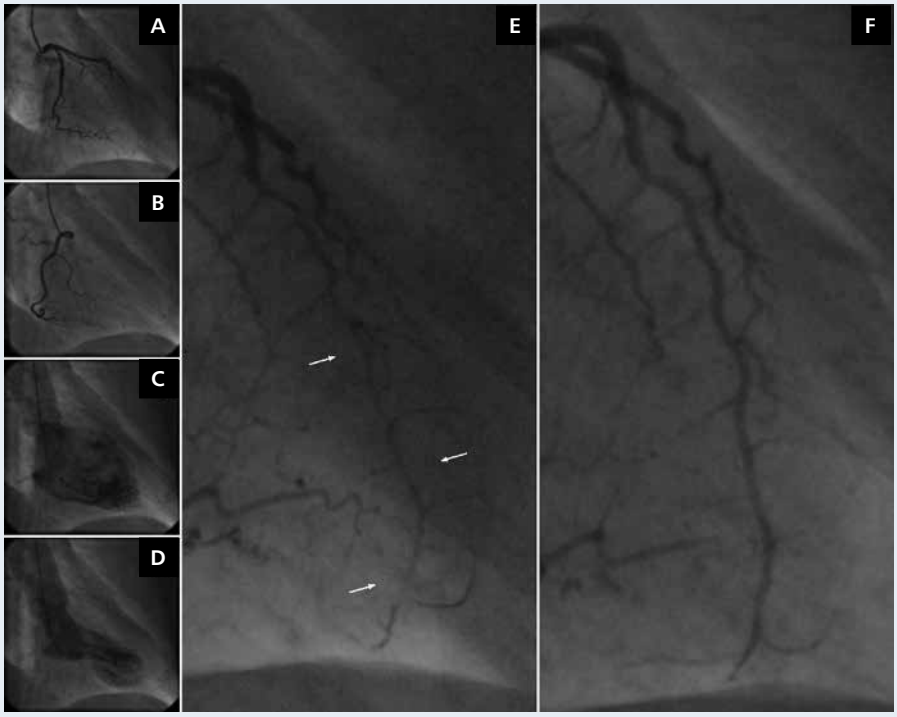

Figure 1. Coronary angiography and ventriculography; **A**. Left coronary artery; **B**. Right coronary artery; **C**. End-diastolic ventriculography; **D**. End-systolic ventriculography; **E**. Angiogram of the left anterior descending artery (LAD) after admission — arrows indicate diffuse stenosis within mid and distal portions of LAD; **F**. Angiogram of LAD on 13th day after index event shows a complete resolution of the previous arterial changes

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