

Ventricular fibrillation in a marathon mountain bike racer

Migotanie komór u uczestnika terenowego maratonu rowerowego

Joanna Piniewska-Juraszek, Edyta Kostarska-Srokosz, Wojciech Król, Joanna Syska-Sumińska, Mirosław Dłużniewski

Department of Cardiology, 2nd Medical Faculty, Medical University of Warsaw, Poland

A 41-year-old man with no concomitant chronic diseases, an amateur cyclist and runner, was admitted because of ventricular fibrillation preceded by chest pain which took place on a 32 km marathon mountain bike race. After a fourth defibrillation performed by medical emergency services, sinus rhythm was restored and ST-elevations in anterior and lateral leads occurred (Fig. 1). The patient was immediately transferred to the catheterisation laboratory. On admission he was conscious with Glasgow Coma Scale 15. Signs of cardiogenic shock including tachycardia, decreased blood pressure (80/40 mm Hg), tachypnoea and hypoxemia were present. During coronary angiography, left anterior descending (LAD) artery occlusion with proximal thrombus was demonstrated (Fig. 2). Other coronary arteries were normal. After thrombectomy, atherosclerotic stenosis of LAD was revealed and consequently a zotarolimus-eluting stent was implanted (Fig. 3). The patient was treated with glycoprotein IIb/IIIa receptor antagonist. The laboratory tests demonstrated signs of tissue hypoperfusion: metabolic acidosis (pH = 6.9; base excess = -23), hypoxemia (partial pressure of oxygen = 57 mm Hg, oxygen saturation = 86%), elevated creatinine (270 $\mu\text{mol/L}$ [n < 130]), glucose (16.0 mmol/L [n < 7.7]) and aspartate aminotransferase levels (207 IU/L [n < 35]), and also elevated D-dimer concentration (> 42,000 $\mu\text{g/L}$ [n < 500]). The first measured troponin I level was normal (0.05 $\mu\text{g/L}$ [n < 0.1]). After coronary angioplasty, immediate cardiac output improvement was achieved with an increase of oxygen saturation and normalisation of blood pressure. Transthoracic echocardiography delineated akinesia limited to the left ventricular apex with preserved global ejection fraction of 55%. During the first day of hospitalisation, some complications of standard antiplatelet (aspirin, clopidogrel, abciximab) and antithrombotic (unfractionated heparin) treatment appeared. The patient had subconjunctival haemorrhages, a massive haematoma of the tongue affecting swallowing and speech, and nasal mucose membrane bleeding. These complications are fairly frequently observed in patients with acid-base imbalances and do not require modification of the antiplatelet therapy. Of the risk factors for the development of coronary artery disease (CAD), only abnormal blood lipid level was present (total cholesterol = 6.0 mmol/L, low-density lipoprotein cholesterol = 3.9 mmol/L). This case shows that a combination of extreme physical activity and competition between non professional athletes might be a strong stressor for the cardiovascular system and furthermore a possible cause of sudden cardiac death in individuals with concomitant CAD. This emphasises the need for thorough medical work-up for people wanting to participate in amateur, organised competition, especially those aged over 35.



Figure 1. Admission electrocardiogram with ST elevation in anterolateral leads

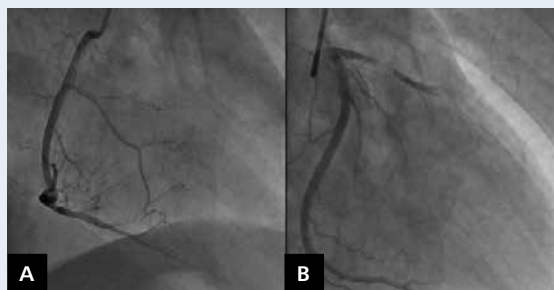


Figure 2. A. Right coronary artery angiogram; B. Left coronary artery angiogram with occluded LAD and proximal thrombus

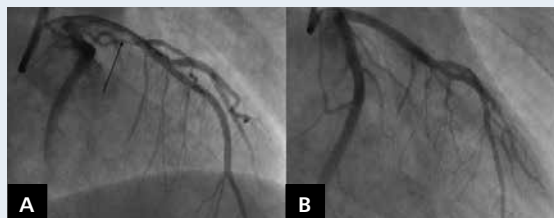


Figure 3. A. Proximal LAD stenosis revealed after thrombectomy; B. Restored normal coronary blood flow in LAD

Address for correspondence:

Joanna Piniewska-Juraszek, MD, Department of Cardiology, 2nd Medical Faculty, Medical University of Warsaw, ul. Kondratowicza 8, 03-242 Warszawa, Poland, e-mail: joanna.piniewska@gmail.com

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