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STUDIUM PRZYPADKU / *CLINICAL VIGNETTE*

Difficult diagnosis of heart failure in rheumatoid arthritis: six-year follow-up of constrictive pericarditis

Trudna diagnostyka niewydolności serca u pacjenta z reumatoidalnym zapaleniem stawów: sześć lat obserwacji

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A 59-year-old man with a 14-year-long history of well-controlled seropositive rheumatoid arthritis (RA) was admitted to hospital for clinical evaluation. RA and interstitial pulmonary fibrosis were diagnosed since 2001. Malignancy and tuberculosis were ruled out. His medical history included cholelithiasis, H. pylori gastritis, osteoporosis with pathological, multi-level compression fractures and coxarthrosis, depressive disorder, and permanent atrial fibrillation (AF). Symptoms of heart failure (HF) were present since 2005. On echocardiography left atrium (LA) enlargement with preserved left ventricular ejection fraction (LVEF) of 60% were found. There were no abnormalities in coronary angiography. Between 2005 and 2009 there were several modifications of RA treatment and three hospitalisations due to HF exacerbations. In November 2009 the patient was admitted to hospital due to decompensated HF. He presented with severe shortness of breath (New York Heart Association [NYHA] IV), fatigue, and chest pain. Ascites and pitting oedema of lower limbs, elevated jugular vein pressure, irregular heart rate ca. 80 bpm, and blood pressure (BP) of 120/70 mmHg were observed. Laboratory tests showed elevated B-type natriuretic peptide (BNP 1125 pg/mL), C-reactive protein (CRP 13.8 mg/L) concentrations, and leukocyte count (white blood cells 14.5 $\times 10^9$/L). Using the Child-Pugh scale the patient was classified as A (5 points). Chest X-ray (Fig. 1) showed compaction at the base of the lungs, and pericardial calcifications. Echocardiography showed enlarged LA (53 mm), LVEF 58%, mildly elevated right ventricular systolic pressure (37 mmHg), and pericardial thickening. On coronary angiography there were no significant lesions. To confirm constrictive pericarditis, computed tomography (Figs. 2, 3) and cardiac magnetic resonance (CMR) were performed, showing inferior and lateral pericardial calcifications and impaired haemodynamic function. Haemodynamic instability lead to urgent partial pericardiectomy through the median sternotomy. The patient improved and was discharged 55 days later. In March 2015, the patient was admitted for clinical evaluation because of HF. He was stable (NYHA II). Examination showed crepitations at both lung bases, and mild lower limbs oedema. Laboratory parameters were within the reference ranges including BNP, except for mildly elevated NT-proBNP of 305.0 pg/mL. Electrocardiogram showed AF, BP 110/90 mmHg. Echocardiography revealed LA (57 mm) and right ventricle (42 mm) enlargement, LVEF 45%, pericardial thickening and calcifications, mild aortic and mitral insufficiency, septal bounce, and dilated vena cava inferior (30 mm) with no respiratory collapse. CMR (Fig. 4) showed inferior and inferolateral pericardial thickening without significant haemodynamic dysfunction. Pericarditis is one of the most common cardiac complications of RA, it is present in 30–50% patients on post-mortem examination. However, it mostly remains without haemodynamic consequences. Pericarditis occurs more often in male patients with active, seropositive RA. Constriction is believed to be chronic process persisting for years. Clinically relevant pericarditis is a rare but serious complication of RA, possibly life-threatening. This kind of extra-articular disease manifestation should be considered in patients with unexpected cardiac insufficiency. Timely diagnosis and adequate intervention, highlighted in this case, can lead to favourable outcomes. Clinical evaluation of significant constrictive pericarditis is challenging. CMR offers information about the haemodynamic consequences, which helps in decision making.

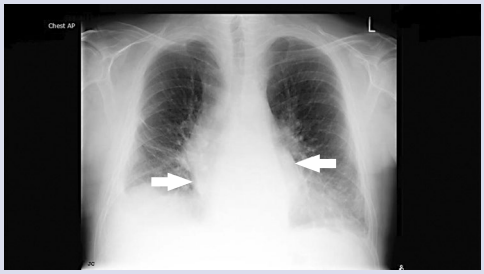

Figure 1. Chest X-ray on admission (2009) compaction — base of the lungs and calcifications in the pericardium (arrows)

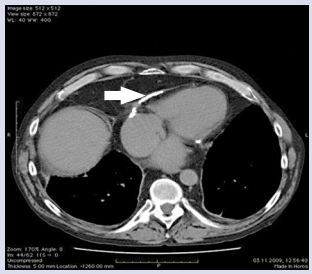

Figure 2. Computed tomography (2009) calcifications behind the lateral part of the pericardium (arrows)

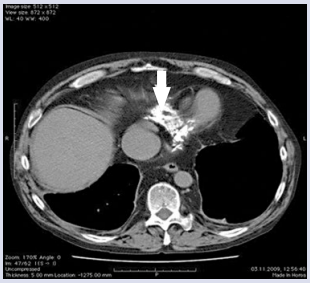

Figure 3. Computed tomography (2009) calcifications in the pericardium — peribasal (arrows)

Figure 4. Cardiac magnetic resonance (2015) dark-blood haste, pericardial thickness (arrows)

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Conflict of interest: *none declared*