

Medical Expertise

"Development of the European Network in Orphan Cardiovascular Diseases"
„Rozszerzenie Europejskiej Sieci Współpracy ds Sierocych Chorób Kardiologicznych”

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CASE SUMMARY

A case with 26-old-year male, professional football player, with pulmonary sarcoidosis and suspicion of cardiac sarcoidosis. In control echocardiography performed in 2011, 2012 and 2013- the results were correct. In November 2013 the patient underwent a brief episode of fever, fatigue and vomiting. In January 2014- in control echocardiography the pericardial effusion was observed. He did not report any symptoms. On CT-scan (22.01.2014) – concomitant mild pleural effusion and mediastinal lymphadenopathy were observed. In February, IgG-reactivity for Adenovirus and Coxsackie B in blood were detected.

Control echocardiography performed in March 2014 revealed pericardial effusion in the area of the right ventricle, mainly in the basal part, max 5 mm, no signs of tamponade were observed. The patient was still asymptomatic. CT scan from 11.04.2014 showed: mediastinal and cavity lymphadenopathy, no fluid in the pleural cavities, numerous micronodular changes in the lung parenchyma. Based on BAL(bronchoalveolar lavage) examination from 14.04.2014 suspicion of sarcoidosis was taken into consideration. Neoplastic process and tuberculosis were excluded.

In May 2014 patient was hospitalized in our Department. He was asymptomatic. On physical examination: numerous tattoos on both upper limbs. No other abnormalities were observed. No abnormalities in blood tests were detected. ECG at rest: sinus rhythm 60 bpm, regular, normal heart axis. The transthoracic echocardiogram (TTE) showed normal size of the heart chambers, preserved global and regional contractility of the left ventricular, (EF 65 %), increased enhancement of intraventricular septum, no valvular pathology, pericardial effusion max 17 mm in the area of anterior left ventricular wall, without signs of tamponade.

Cardiac magnetic resonance with contrast (gadolinium) application showed slightly reduced mass and ejection fraction of the left ventricle (EF - 49 %), pericardial effusion, max 10 mm in the area of left ventricle inferior wall and right ventricle free wall. Furthermore, single, non-characteristic area of delayed hyperenhancement on the border of inferior wall and intraventricular septum; 6 mm diameter, was observed. Moreover, mediastinal and cavity lymphadenopathy and pleural effusion, more on the right side, max 18 mm were detected. 24-hours ECG monitoring showed numerous episodes of bradycardia.

On 20-22.05. 2014 May 2014 the patient was hospitalized in the Department of Allergy and Immunology of University Hospital in Cracow. Diagnosis of pulmonary sarcoidosis was upheld. Because of the regression of lung lesions no treatment was recommended.

DISCUSSION

Sarcoidosis is a multisystem disorder of unknown etiology [1]. The disease develops most frequently in hilar lymph nodes and lung parenchyma (90-97 % of cases). But it can affect almost every organ.

Cardiac involvement in the course of sarcoidosis is relatively rare. Symptomatic cardiac sarcoidosis is diagnosed in 5% of patients suffering from pulmonary sarcoidosis [2]. Sarcoid lesions most frequently occur in free wall of left and right ventricle, basal part of intraventricular septum, papillary muscles, left and right atrium, endocardium or pericardium [3, 4].

The most common manifestations of sarcoidosis with cardiac involvement are arrhythmias and conduction abnormalities [2]. Other consequences of cardiac sarcoidosis include: congestive heart failure, pulmonary hypertension or valvular heart disease. Pericardium is affected in as many as 19% of patients with sarcoidosis. Most of these patients are asymptomatic, but some complain about chest pain and palpitation. Secondary pericarditis develops most frequently with effusion. The consequence of the massive pericardial effusion may be tamponade [5,6]. This is the emergency medical condition, and untreated leads to cardiogenic shock and cardiac arrest. Constrictive pericarditis is a rare complication of sarcoidosis [7, 8].

The role of cardiac magnetic resonance, scintigraphy and positron emission computed tomography in the diagnosis and monitoring of the progress of cardiac sarcoidosis are increasing. Whereas, cardiac biopsy, due to the invasive character of the examination and the high percentage of falsely negative results it is currently not performed routinely [9,10].

The primary method of treatment for cardiac sarcoidosis is the systemic steroids. There is necessary the long-term use of high doses of medicines [4].

The symptom „asthenia” in a professional athlete is described as loss of his global performance. It can be caused by overtraining. Frequent cause of asthenia are viral infections.

Other rare causes are tuberculosis, lymphoma, rheumatic fever and rheumatoid arthritis. When these ones can be excluded it is consequently reasonable to think of sarcoidosis [11].

EXPERT'S OPINION

The diagnosis of pulmonary sarcoidosis in this patient is doubtful. There is lack of histopathological verification. The result of BAL examination can't be a basis for diagnosis of pulmonary sarcoidosis. Pericardial and pleural effusion may occur in the course of sarcoidosis but they are not typical finding.

It is necessary to perform further studies to confirm the diagnosis of sarcoidosis. Recommended studies are: biopsy of bronchial mucosa and transbronchial biopsy of enlarged mediastinal lymph nodes under ultrasound control, the assessment of pulmonary capacity and assessment of calcium metabolism. 6-minute walk test is also indicated. During the test, the dynamics of changes in heart rate should be evaluated. Since the literature reports of reduced increase in heart rate during the first minute of effort, with significant acceleration of HR after 6 minutes. Furthermore, scintigraphy of the lung and PET (positron emission computed tomography) examination should be considered. Highlighted the fact, that diagnosis of cardiac sarcoidosis is indication for high-doses, systemic corticosteroid therapy.

Until the diagnostic process will be completed, physical training is absolutely contraindicated due to the potential risk of sudden cardiac death.

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