Abstract: P397

Tuberculous lymphadenitis presenting with large pericardial effusion

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A 24-year-old female presented with intermittent fever persisting for three months, 10 kg weight loss in 6 weeks and just recently developed respiratory distress at our emergency department. The patient was born in Africa, but asserted that she hadn’t been out of Germany for 8 years. She was found anaemic, C-reactive protein (CRP) was slightly elevated and chest X-ray revealed a dilated heart silhouette and pleural effusions. A large pericardial effusion was detected on echocardiography. In order to rule out peri- or myocarditis cardiac magnetic resonance imaging (CMR) was performed:

We used transversal, sagittal und coronal TRUFI sequences, a transversal HASTE sequence, multiplanar Cine sequences, T2 Maps, T1 Maps pre- and post-contrast and multiplanar late gadolinium enhancement (LGE) phase sensitive inversion recovery (PSIR) sequences as well as 3D inversion recovery (IR) LGE sequences. The images showed a massive pericardial effusion with a "swinging heart", extending concentrically to a maximum of 35 mm at the lateral left ventricle (LV) wall with a volume of around 500ml. Right atrium (RA) and right ventricle (RV) were hemodynamically impaired. Global LV function was intact. T2 maps did not suggest significant edema, T1 maps were without pathological findings. LGE showed discrete intramural lesions inferolateral, suggesting concomitant myocardial inflammation. The visceral lamina of the pericardium appeared to be irregular shaped and partially thickened, whereas no pericardial LGE was seen. There were also multiple enlarged mediastinal lymph nodes. Due to suspicion of a lymphoma disease, the diagnostics were complemented by computed tomography (CT), which confirmed extensive mediastinal lymphadenopathy. Finally, polymerase chain reaction (PCR) of tissue obtained by CT-guided mediastinal biopsy detected Mycobacterium tuberculosis.

Pericardial effusion in tuberculosis is often associated with pericarditis and myocarditis, which are rare manifestations that can be fatal, if diagnosis and treatment are not provided without delay. They can lead to cardiac tamponade, constrictive pericarditis, severe dilated cardiomyopathy, congestive heart failure, ventricular arrhythmias and sudden cardiac arrest. As those complications only seldom occur, no recommendations for routine diagnostic workup are existing. Over the last years tuberculosis has become a matter of worldwide interest again due to growing migration. We believe CMR to be a helpful tool especially in tuberculosis or tuberculosis-suspicious cases to early rule out rare cardiac manifestations. Our patient responded satisfactorily to standard antituberculous chemotherapy with Isoniazid, Rifampicin, Ethambutol and Pyrazinamide.
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