‘Value of echocardiography for detection of pulmonary hypertension in sarcoidosis’

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Introduction
The diagnosis pulmonary hypertension (PH) in sarcoidosis is challenging, since signs and symptoms, such as dyspnoea, dizziness and chest pain, overlap. Right heart catheterisation (RHC) is the gold standard for diagnosing PH. However, this is an invasive procedure, and therefore reserved for patients with an elevated probability for the presence of PH. The ESC/ERS PH guideline recommend transthoracic echocardiography (TTE) as a screening tool. However, little is known about the diagnostic value of echocardiography for detecting PH in sarcoidosis.
Methods
Between August 2015 and February 2018, data were collected from all consecutive patients with PA confirmed or consensus diagnosis sarcoidosis who underwent both RHC and TTE, and signed informed consent. Baseline data including history taking, physical examination, cardiac biomarkers, pulmonary function tests and ECG were collected. PH was defined as the presence of a mean pulmonary artery pressure of ≥ 25 mmHg by RHC.
Results
In this prospective study, 32 patients (65.6% male, mean age 56.1 years) underwent both RHC and echocardiography. Echocardiography classified these patients in low (n=2), intermediate (n=23) and high probability (n=7) of PH. Most patients (50.0%) had scadding stage IV on chest X-ray. PH was confirmed by RHC in 12 patients, and absent in 20 patients. In patients with intermediate probability on TTE, PH was present in only 34.8%. For high probability, this was 57.1%. Intermediate or high probability together accounted for a positive predictive value of 0.4 (CI 0.23-0.59). The attached table compares data between patients with confirmed PH and no PH. None of the echocardiographic parameters is significantly different between PH and no PH. Noteworthy, the tricuspid regurgitation max velocity was not measurable in 31.3% of all patients.
Conclusion
Echocardiography is not able to accurately discriminate between the presence of PH in sarcoidosis patients who underwent RHC. In order to diminish the number of unnecessary RHC’s, a more extensive screening protocol should be used, possibly including pulmonary function tests, biomarkers and ECG.
NB. In the coming months we will further elaborate possible predictors for PH in sarcoidosis, and try to suggest a more accurate model to predict the presence of SAPH.