IMAGE FOCUS

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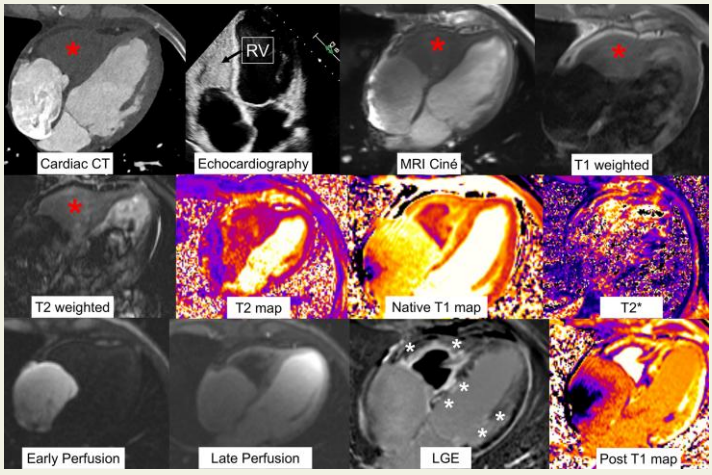
Multimodality imaging of eosinophilic endocarditis with intracardiac right ventricular thrombus

Monika Wieser[1], Andreas Wahl[1], Adrian T. Huber[2], Njomeza Susuri-Pfammatter[1], and Christoph Gräni [1]*

[1]Department of Cardiology, Inselspital, Bern University Hospital, University of Bern, Freiburgstrasse 4, CH-3010 Bern, Switzerland; and [2]Department of Diagnostic, Interventional and Paediatric Radiology, Inselspital, Bern University Hospital, University of Bern, Freiburgstrasse 4, CH-3010 Bern, Switzerland

*Corresponding author. Tel: +41 31 632 2500; Fax: +41 31 632 42 99. E-mail: christoph.graeni@insel.ch



A 52-year-old man presented with new onset of heart failure and severe hypereosinophilia. Personal history revealed asthma, myalgias, polyneuropathy, sinusitis, prostatitis, skin lesions and lymphadenopathy, evocative of eosinophilic granulomatosis with polyangiitis. Tropical eosinophilia, drug-related eosinophilia, and the search for primary neoplastic hypereosinophilia were negative. Computed tomography (CT) and echocardiography (see Figure) revealed a mass in the right ventricle (RV) (red asterisk). 4D-CT and cardiac magnetic resonance imaging (CMR) (see Figure) confirmed the findings and revealed impaired function of the tricuspid valve, with impaired RV filling and partly dynamic RV outflow obstruction (see Supplemental data online). CMR further showed a cardiac mass in the RV, which was T1-weighted hypointense, T2-weighted isointense, normal T2 mapping, normal native and elevated post-contrast T1 mapping, normal T2*, non-perfused, and non-late gadolinium enhancing (LGE). Further, diffuse, biventricular, mainly subendocardial LGE (white asterisk) and impaired biventricular function was present. The diagnosis of biventricular endomyocardial fibrosis (i.e. eosinophilic endocarditis) with intracardiac RV thrombus was made. Immunosuppressant, heart failure therapy and oral anticoagulation were installed. Three months later, follow-up CMR showed a reduction in RV thrombus size and improved left ventricular function. Eosinophilic myocarditis is a rare, potentially fatal inflammatory cardiomyopathy with eosinophilic infiltration of the myocardium, which may present with acute endo/myocardial inflammation (stage 1) or like in our case in a thrombotic and fibrotic stage (i.e. stage 2 and 3). This case illustrates the value of multimodality imaging including echocardiography, 4D-CT, and CMR using tissue characterization to establish the diagnosis of eosinophilic endocarditis and thrombus in the context of heart failure, which helps to guide further management of patients in this clinical setting.

Supplementary data are available at *European Heart Journal – Cardiovascular Imaging* online.

Patient consent: Patient consent was obtained for this case report.

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