Cardiac magnetic resonance imaging in Löffler's endocarditis

Myra S Cocker BSc¹, Hassan Abdel-Aty MD¹, Pauline Alakija MD²,
Oliver Strohm MD FESC¹, Matthias G Friedrich MD FESC¹

A 61-year-old woman presented with chest pain and shortness of breath. Blood work revealed elevated markers for myocardial injury and hypereosinophilia.

A right ventricular endomyocardial biopsy was performed for suspected Löffler's endocarditis (Figure 1) and revealed endocardial fibrosis. Neither necrotic nor thrombotic stages of hypereosinophilic

endocardial disease could be detected. To confirm these findings, cardiac magnetic resonance imaging (CMR) for tissue characterization was performed.

The CMR study (Figure 2) demonstrated small left ventricular (LV) dimensions (LV end-diastolic volume index 5.2 mL/cm) with normal ejection fraction and LV mass. Marked obliteration of the mid-portion

Figure 1) Right ventricular biopsy was performed for suspected Löffler's endocarditis (Masson's trichrome staining) and revealed endocardial fibrosis

Figure 2) Cardiac magnetic resonance imaging demonstrated small left ventricular (LV) dimensions with normal ejection fraction and LV mass. Marked obliteration of the mid-portion of the LV lumen by a mass with low signal on steady-state free precession imaging (A,B), first-pass perfusion (C) and post-contrast late enhancement images (D), was consistent with intraventricular thrombus (arrows in C and D)

¹Stephenson Cardiovascular MR Centre, Foothills Medical Centre, Department of Cardiac Sciences; ²Department of Pathology and Laboratory Medicine, Faculty of Medicine, Health Sciences Centre, University of Calgary, Calgary, Alberta

Correspondence: Dr Oliver Strohm, Stephenson Cardiovascular MR Centre, Foothills Medical Centre, Suite 700, Special Services Building, 1403 – 29th Street Northwest, Calgary, Alberta T2N 2T9. Telephone 403-944-8806, fax 403-944-8510, e-mail oliver.strohm@ucalgary.ca

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of the LV lumen by a mass with a low signal on steady-state free precession imaging (Figures 2A and 2B), first-pass perfusion (Figure 2C) and postcontrast late enhancement images (Figure 2D) were consistent with intraventricular thrombus. Contrast uptake in the subendocardial layers of the midventricular and apical segments was noted. Findings were corroborative of Löffler's endocarditis at the thrombotic stage.

Confirming Löffler's endocarditis, bone marrow biopsy revealed 21% hypereosinophilia. Treatment with oral prednisone and hydroxyurea resolved cardiac symptoms within weeks.

A CMR performed after seven months (Figure 3) revealed no residual intraluminal thrombus. LV functional parameters had normalized. Subendocardial late enhancement was consistent with fibrotic Löffler's endocarditis.

The present report illustrates the ability of CMR to visualize tissue pathology and guide therapy. Right ventricular endomyocardial biopsy failed to stage the disease correctly, and only detected fibrosis. CMR may be performed for tissue characterization in patients with clinical findings suggestive of Löffler's endocarditis, to stage the pathology and aid interventions.

Figure 3) Cardiac magnetic resonance imaging performed after seven months did not show residual intraluminal thrombus (arrows in C and D)