Cardiovascular Magnetic Resonance Imaging of Myocardial Fibrosis in Dermatomyositis

CHRISTIANE ARNOLD, Dipl. Sport Science, German Sports University, Cologne; HASSAN ABDEL-ATY, MD; CHRISTOPH TILLMANNS, MD, Cardio Imaging Center, Diagnostikum Berlin, Berlin, Germany. Address correspondence to Dr. C. Tillmanns, Cardio Imaging Center Berlin, Paretzer Str. 12, 10713 Berlin-Wilmersdorf, Germany. E-mail: tillmanns@cardiomrt.de. J Rheumatol 2010;37:1056; doi:10.3899/jrheum.090946

Cardiac involvement in dermatomyositis (DM) is infrequent but is associated with poor prognosis. Myocardial fibrosis has been observed in histopathological studies of DM and has been attributed to myocardial inflammation. Reports describing its noninvasive in vivo visualization in DM are lacking. Fibrosis represents a common substrate of ventricular arrhythmias in an array of non-ischemic cardiomyopathies and possibly in DM as well.

A 58-year-old woman with DM first diagnosed 6 years earlier was referred for cardiovascular magnetic resonance imaging (MRI) because of progressive exertional dyspnea. Examination revealed bilateral atrial enlargement, which was much more pronounced in the right atrium (steady-state free precession). In addition, an area of myocardial late enhancement (inversion-recovery gradient echo) was noted in the basal posterolateral wall, together with a small pericardial effusion (Figure 1). There was no evidence of myocardial edema (T2-weighted image) or hyperemia (early contrast-enhancement), considering the skeletal muscle as an internal reference. Coronary angiography revealed no significant coronary artery stenosis, indicating that the fibrosis was non-ischemic.

The unique ability of cardiovascular MRI to visualize focal myocardial fibrosis noninvasively in this setting may offer a novel method of risk stratification.

REFERENCES

Figure 1. Myocardial late enhancement was noted in the basal posterolateral wall (A: circle), together with a small pericardial effusion (B: arrows). RA: right atrium; RV: right ventricle; LA: left atrium; LV: left ventricle.