Tissue Doppler imaging in cardiac sarcoidosis

J.P. Smedema1,2*

1Lazaron Heart Clinic, Suite 103, Medical Chambers, Netcare N1 City Hospital, S Douglas Street, Goodwood 7460, Capetown, South Africa; and 2Department of Medicine, University of Capetown, Observatory 7925, Capetown, South Africa

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A middle-aged African lady, who presented with ventricular tachycardias, mitral valve regurgitation and congestive heart failure, was diagnosed with cardiac sarcoidosis. Tissue Doppler imaging demonstrated abnormalities suggestive of myocardial scar, which was confirmed by contrast-enhanced cardiac magnetic resonance.

KEYWORDS
Tissue Doppler imaging; Cardiac sarcoidosis; Cardiac magnetic resonance

A middle-aged African lady, who had previously been diagnosed with pulmonary sarcoidosis, presented with congestive heart failure, severe mitral valve regurgitation (Figure 1), and sustained ventricular tachyarrhythmias. Tissue Doppler imaging demonstrated impaired longitudinal strain and strain rate of several lateral left ventricular segments. Line magnetic resonance imaging showed loss of wall thickness and hypokinesia of these segments, while the delayed contrast-enhanced study revealed extensive fibrosis (see supplementary data online). The diagnosis of cardiac sarcoidosis was made according to the criteria of the Japanese Ministry of Health.1 This case demonstrates the value of tissue Doppler imaging when evaluating sarcoidosis patients for possible cardiac involvement. Tissue Doppler has been used to delineate myocardial inflammation in patients with viral myocarditis.2,3 The clinical relevance of this novel technique in diagnosing myocardial inflammation and fibrosis in cardiac sarcoidosis needs further study. Our patient improved on the implemented anti-failure treatment. An automated cardioverter defibrillator was implanted.

Supplementary data

Supplementary data are available at European Journal of Echocardiography online.

Conflict of interest: no conflict of interest to declare.

References

* Corresponding author. Tel: +27 21 5953813; fax: +27 21 5953814.
E-mail address: jansmedema@hotmail.com

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Figure 1  Transthoracic echocardiography demonstrates severe eccentric mitral regurgitation secondary to papillary muscle dysfunction (A: four chamber view, arrow), tissue Doppler sampling reveals normal longitudinal deformation at the level of the lateral mitral annulus (asterisk), but impaired deformation of the basal (diamond) and mid-lateral (filled square) left ventricular segments; (B and C) respective strain curves and curved MMode representation); delayed contrast-enhanced cardiac magnetic resonance reveals extensive scarring of the mentioned segments (D: four chamber view, left-sided arrow: contrast-enhanced anterolateral papillary muscle; right-sided arrow: subendocardial and transmural contrast enhancement signifies myocardial scar tissue).