

## Two-dimensional echocardiography in endomyocardial disease

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### Summary

To assess the usefulness of two-dimensional echocardiography in the diagnosis of endomyocardial disease, 7 subjects with this disorder, proved by angiography or necropsy, were studied. Typical echographic findings included apical obliteration of either one or both ventricles by an echogenic mass with preserved systolic inwards motion. Some subjects showed increased specular echo reflectance at the endocardial border of the obliteration. The combination of apical obliteration, posterior fibrotic thickening of mitral or tricuspid valves, hyperdynamic contraction of non-involved ventricular walls and large atria constitutes an echographic pattern suggestive of this syndrome.

KEY WORDS: echocardiography, endomyocardial disease.

### Introduction

Endomyocardial disease is a restrictive cardiomyopathy with typical clinical, angiographic and necropsy findings (Brockington and Olsen, 1972; Chew *et al.*, 1977; Roberts, Buja and Ferrans, 1970).

There is a characteristic endocardial obliteration of the cardiac apex and inflow tract of either one or both ventricles by fibrous tissue and thrombotic material. The purpose of this presentation was to evaluate two-dimensional echocardiography in the recognition of this disorder.

### Material and methods

Seven patients previously diagnosed by angiography or autopsy were studied. Their ages ranged between 15 to 55, with a mean of 40 years. Four had a diagnosis of hyper eosinophilic syndrome. Presenting symptoms were those of biventricular congestive heart failure, and 2 had atypical chest pain. Five were mestizo and 2 white. A phased array Diasonics 3400R echocardiography equipment was used. All standard echocardiographic views were obtained with the patient lying in the left lateral decubitus.

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### Results

The most significant finding was the apical obliteration of either one or both ventricles by a mass which consistently showed in the left ventricle a preserved systolic inwards motion. In 3 subjects, the endocardial surface of the obliteration had increased echo reflectance. The posteroinferior wall of the left ventricle, and the posterior leaflet of the mitral valve had decreased mobility. The obliteration of the right ventricular apex had an irregular surface, and showed no consistent movement. In some patients, it was dyskinetic while, in others, it had an inward motion.

Increased echocardiographic reflectance of the posterior papillary muscle of the left ventricle in 3 subjects and of the right ventricle in one patient were noticed. The posterior mitral valve was thickened and adherent to the inflow tract.

On the apical 4 chamber position, the general appearance was that of small ventricles with huge atria. The apparent small ventricle was due to cavity obliteration, but basal ventricular dimensions were normal or increased and ventricular function was preserved. The increased size of both atria was due to mitral and/or tricuspid incompetence.

### Discussion

Two-dimensional echocardiography proved to be useful as a non-invasive tool for the diagnosis of endomyocardial disease associated or not with eosinophilia. Both forms of the syndrome have similar echocardiographic findings. The 4 chamber apical position enabled a demonstration of the apical obliteration and comparison of both ventricular and atrial sizes. Characteristically, a pattern of hyperdynamic ventricles with diminished cavity size and large atria was noticed in the majority of the patients. A prospective study comprising more patients is necessary to evaluate the usefulness of two-dimensional echocardiography in the detection of subjects suffering from early manifestation of this disease.

**References**

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