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Images in Cardiology: Cardiac Metastases from Malignant Melanoma

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A 31-year-old male with malignant melanoma presented with dyspnea, tachycardia and near-syncope. Echocardiogram showed pericardial effusion and masses within the right heart (Fig. 1) (A–C) extending into and obstructing the right ventricular outflow tract (peak gradient, 27 mmHg) and causing right ventricular dilatation. There was secondary pulmonary hypertension (RV systolic pressure, 70 mmHg) from tumor emboli. Metastatic lesions also involved the left ventricle (B–D), liver, brain and subcutaneous tissue, with histological confirmation in the latter. Although melanoma has propensity for cardiac metastasis, this is rarely identified antemortem.

Cardiopulmonary symptoms in melanoma should prompt echocardiography to evaluate etiology and prognosis, determined by the presence and extent of metastatic disease.¹

Reference

1. Balch CM, Soong SJ, Gershenwald JE, Thompson JF, Reintgen DS, et al.: Prognostic factors analysis of 17,600 melanoma patients: validation of the American Joint Committee on Cancer melanoma staging system. *J Clin Oncol* 2001;19(16):3622–3634

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FIG. 1 Transthoracic echocardiogram showing a small pericardial effusion (PE) and multiple masses (arrows) in the apical 4-chamber view (A), attached to the lateral wall of the right atrium (RA) measuring 36 mm $\times$ 25 mm; attached to the septal right ventricle (RV) measuring 20 mm $\times$ 28 mm and masses filling its apex. In the parasternal long-axis view (B) and right ventricular outflow tract window (C), there were masses obstructing the outflow tract, impinging onto the pulmonary valve. In addition, a mass of echoes 20 mm $\times$ 14 mm was attached to the left ventricular (LV) posterior wall (D).