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Surprise imaging findings in an asymptomatic patient with an ECG suggestive of apical hypertrophic cardiomyopathy

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We present the case of a 55-year old woman with an unremarkable past medical history, allergic to eggs and cinnamon and without any clinical complaints, who presented for a routine ECG prior to a dental implant procedure.

The ECG revealed signs of left ventricular (LV) hypertrophy with deep negative T waves in V2-V6 (Figure) suggesting apical hypertrophic cardiomyopathy. Her physical exam was unremarkable and a transthoracic echocardiography (TTE) was ordered. The TTE revealed normal LV dimensions, a normal global systolic function of both ventricles, but most remarkably, an isoechoic mass that occupied the whole apex and one third of the LV cavity (Figure), with a maximum thickness of 22 mm and a 2 mm hyperechogenic lining towards the LV, all these findings being suggestive of Loeffler endocarditis.

The routine laboratory tests showed (apart from a slightly increased LDL-cholesterol and normal BNP values) hypereosinophilia: more than 10% of the white blood count.

Chest X-Ray and the abdominal scan showed no signs of pulmonary or hepatic infiltration. Cardiac magnetic resonance imaging was scheduled, but the patient has claustrophobia and was unable to perform the exam.

The aetiological workup included the investigation of allergic, hematologic, as well as parasitic causes of the hypereosinophilic syndrome. Consequently, serological tests for Coxiella, Chlamydia, Echinococcus and Toxocara were all performed. The IgG antibodies for Toxocara canii were found in a very high level, indicating a chronic parasitic infection as a possible cause of the hypereosinophilic syndrome. The hematologic exams were all within normal limits. The endomyocardial biopsy, the gold standard for diagnosis could not be performed for technical reasons.

The first step in the management of hypereosinophilia (HE) is stopping exposure to the trigger, as well as specific treatment- albendazole. The patient received oral anticoagulant treatment in order to prevent thromboembolic complications, which are frequently reported in this clinical setting.

Loeffler's endocarditis is usually a late cardiac manifestation of the HE syndrome. This is a rare and surprising case of an incidental imaging diagnosis in a totally asymptomatic patient after a routine ECG that was suggestive of hypertrophic cardiomyopathy. The challenge consisted in finding the cause of HE in order to attempt an aetiological treatment. Although the allergic and parasitic causes were most likely, considering the patient's history, a hematologic malignancy had to be excluded. HE associated with toxocariasis rarely causes cardiac manifestations, but it should not be excluded when the patient has a history of canine exposure. The most fearsome complication in this case is the embolization of the eosinophilic mass, but the prompt management and routine follow-up allow the prevention of a thromboembolic event.

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