Point of view

Celiac disease in idiopathic dilated cardiomyopathy

Cristina Chimenti, Maurizio Pieroni, Andrea Frustaci

Institute of Cardiology, Catholic University of the Sacred Heart, Rome, Italy

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Address:

Dr. Andrea Frustaci

Istituto di Cardiologia
Università Cattolica
del Sacro Cuore
Policlinico A. Gemelli
Largo A. Gemelli, 8
00168 Roma
E-mail:
biocard@rm.unicatt.it

A significantly increased prevalence of celiac disease (5.7 vs 0.18% of the general population)[1] has recently been reported[2] in patients with idiopathic dilated cardiomyopathy (IDCM) by testing serum antiendomysium antibodies. Positive antiendomysium antibody patients received an intestinal endoscopy and biopsy that confirmed a celiac disease to be present.

The identification of a celiac disease in patients with IDCM raises critical questions on the relationship between the two entities. In fact it is known that a reciprocal negative interaction between the heart and small intestine can occur whenever each organ is severely compromised. In particular intestinal absorption can be impaired in patients with IDCM and chronic heart failure, while a celiac disease can limit the absorption of essential nutrients (electrolytes, proteins, amino acids, etc.) leading to structural and functional abnormalities of cardiomyocytes that may determine or exacerbate an IDCM.

In their article Curione et al.[2] suggest an autoimmune link between celiac disease and IDCM, in other words the existence of an autoimmune process towards antigenic components of both the myocardium and small bowel. However they do not provide any supportive evidence to their claims.

In fact an assessment of cardiac autoantibodies has not been performed. Moreover the bioptical approach to their patients has been limited to the right ventricle, the histologic results are not reported in detail and finally no immunohistochemical or polymerase chain reaction study on the possible presence of viral genomes has been undertaken. Indeed it is known that right ventricular biopsy provides a low sensitivity for the histologic assessment of myocarditis[3,4] while left ventricular and mostly biventricular endomyocardial biopsy furnish more reliable results when a comparison with *post-mortem* studies is carried out[5]. It is likely, then, that at least some of the patients who received a diagnosis of IDCM because of the presence of non-specific changes in the hypertrophy-dilated heart might have had a myocarditis.

On the true setting of IDCM, viral infection seems to have an increasing role as in up to 50% of patients with IDCM a viral genome has been identified in frozen endomyocardial tissue by polymerase chain reaction[6-8]. The assessment of the pathogenetic mechanism (i.e. immuno-mediated or viral-mediated) in IDCM has not got, from the recent past, only a speculative value. Indeed immunosuppressive therapy may provide beneficial results in active lymphocytic myocarditis associated with detection in the serum of cardiac autoantibodies[9] and giant cell myocarditis[10] in which an immune mechanism is detectable. On the other hand treatment with large doses of gammaglobulins was shown to be effective in patients with myocardial infection by Cytomegalovirus[11], Herpes Simplex virus and Parvovirus[12,13], while interferon-beta has recently been used with promising results for inflammatory dilated cardiomyopathy caused by adenovirus and enterovirus[14,15].

The association of celiac disease with IDCM may have relevant practical implications. In particular an undiagnosed celiac disease can prevent the restoration of intestinal absorption of essential nutrients and cardiovascular drugs. Moreover celiac disease is invariably associated with an in-

creased intestinal permeability[16] that can in turn allow the transluminal passage of potential antigens such as ingested food proteins, endotoxins, bacterial breakdown products and active enzymes, thus favoring myocardial and coronary vascular disorder.

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