

## Abstract

**Introduction:** Inflammatory cardiomyopathy (DCMi) represents a non-familial form of dilated cardiomyopathy (DCM) and endomyocardial biopsy (EMB) is crucial for its diagnosis.

**Aims:** To assess the prevalence of DCMi in patients with DCM of unclear origin, to evaluate the significance of serological tests for antibodies against infectious cardiotoxic agents and to analyze the effect of specific therapy guided by EMB results.

**Methods:** EMB was performed in 56 subjects (mean age  $52 \pm 10$  years) with DCM of unclear etiology and left ventricular (LV) ejection fraction (EF)  $< 40\%$  with a history of heart failure less than 1 year. EMB samples were analyzed by immunohistochemistry, polymerase chain reaction (PCR) and electron microscopy.

**Results:** Immunohistochemical examination revealed myocardial inflammation in 26 patients (46%), the PCR method detected genome of microbial agents in 32 patients (57%). Electron microscopy showed the presence of particles of microbial agents in 41 patients (73%). Serological blood tests found no IgM antibody positivity against any of the investigated microbial agents. Targeted antibiotic therapy in patients with evidence of *Borrelia burgdorferi* (Bb) genome in the EMB led to a reduction in LV size, improvement of LV EF and alleviate symptoms of heart failure.

**Conclusion:** DCMi is a frequent cause of DCM of unclear etiology. Specific antibiotic therapy in patients with evidence of Bb genome in EMB seems to improve morphological and functional parameters of the LV and to alleviate symptoms of heart failure. Serology does not appear to be beneficial for diagnosis of DCMi.