

Referring to Noncompaction of the Myocardium, Chagas' Disease and Dysfunction

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I found it interesting and suitable the publication on the Internet of the article "Noncompaction of the Myocardium, Chagas disease and Dysfunction – Case Report," by Ronaldo Peixoto de Mello et al (Arq Bras Cardiol 2010; 95(1): e4-e6)¹.

We would just like to make a comment about the authors' statement that "This case report is the first description of the association of heart disease and noncompaction of the left ventricular myocardium (NCLVM) induced by Chagas' Disease (CD)."

In fact, we have presented several echocardiography tests in various congresses, where we showed images of left ventricular trabeculations in patients with dilated form of chronic Chagas cardiomyopathy. It should be noted that we have published such aspect in the book "Doença de Chagas", by Jarbas Malta, published in São Paulo by SARVIER in 1996. In page 111, we said: "... we have observed, in patients with the dilated form of the Chagas disease, the prevalence of echocardiography images suggesting "trabeculations" or "wrinkled" endocardium, are rarely seen in non-infected ones (Fig. 43).", Annex 01.

It is interesting to note the 6:1 ratio between the trabeculations and the normal myocardial thickness, a finding also seen by us in echocardiography, much more pronounced than that described as a characteristic of NCLVM.

Finally, we agree with the authors that echocardiography is the method of choice for the diagnosis of these anatomic abnormalities, although other imaging techniques may be useful.

Keywords

Chagas' cardiomyopathy; Chagas' disease; ventricular dysfunction, left.

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Reference

1. Mello RP, Szarf G, Nakano E, Dietrich C, Cirenza C, Paola AA. Noncompaction of the myocardium, Chagas' disease and dysfunction: a case report. Arq Bras Cardiol. 2010;95(1):e4-6.

Reply

The Chronic Chagas' Heart Disease has always been a concern in our country. A quick search on websites regularly used, with the terms Chagas' Disease and Myocardial Noncompaction produce 6,320 results. It is redundant to explain the futility of checking each of the pages found. If we search on PubMed for the term Chagas' disease, we find 12,480 articles published. On the other hand, the term non-compaction results in 631 articles. If we use these terms together, we find only this case report. Searching the LILACS, we find similar results.

Some considerations are particularly important. Firstly, the left ventricular endocardial surface is usually covered by muscle projections forming variable course bridges called trabeculae

carneae. Muscle bands and prominent trabeculations with more than 2mm in diameter are commonly found in 68% of normal hearts without characterizing the disease associated with non-compaction¹. They protrude from the inner ventricular surface, especially from the septal wall to the side wall, except in the arterial cone which makes fundamental to define echocardiographic criteria. Secondly, what characterizes the presence of myocardial non-compaction is a large and exuberant presence of trabeculation; relationship between the muscle non-compacted and normal myocardium > 2; the presence of profound intratrabecular recesses². We congratulate Dr. Peireira et al for this pioneering study discussing the matter, however, distinguishing the presence of ventricular dysfunction induced by non-compaction from ventricular dysfunction caused by chronic Chagas' heart disease

can be difficult with the echocardiography image referred in the article³. Some features are important to distinguish the etiology of myocardial impairment including the presence of a common apex aneurysm in the chronic Chagas heart disease (unlikely in non-compaction); presence of transmural or epicardial fibrosis, most common in the former, while the latter, fibrosis tends to be subendocardial adjacent to the trabeculations. Additional data can be useful: association of severe dysfunction in inferobasal wall that is common in chronic Chagas heart disease; presence of right bundle branch block associated with left anterior-superior division block in an individual with positive serology and epidemiology. Therefore, by evaluating an image by echocardiography without these

changes induced by chronic Chagas heart disease without the use of late enhancement, it could hardly be demonstrated that left ventricular dysfunction was actually being driven by the non-compaction in patients with the undetermined form of *Trypanosoma cruzi* infection. The exuberance of trabeculations documented by resonance imaging drew attention. During the image acquisition, 8 to 12 sections can be acquired in short axis allowing subsequent analysis of the region with higher muscle band, and characterizing the distribution of typical fibrosis of chronic Chagas heart disease in late enhancement. This produces a thinning effect on the non-trabecular myocardial thickness, which may contribute to the increase of the relationship found.

References

1. Boyd MT, Seward JB, Tajik AJ, Edwards WD: Frequency and location of prominent left ventricular trabeculations at autopsy in 474 normal human hearts: Implications for evaluation of mural thrombi by two-dimensional echocardiography. *JAm Coll Cardiol*. 1987;9(2):323-6 .
2. Chin TK, Perloff JK, Williams RG, Jue K, Mohrmann R. Isolated noncompaction of left ventricular myocardium: a study of eight cases. *Circulation*. 1990;82(2):507-13.
3. Pereira R. Recursos diagnósticos na cardiopatia chagásica. In: Malta J. Doença de Chagas. São Paulo: Sarvier; 1996.p.110-2.