

are the diseases most frequently associated with LVHT⁷ and because of the uncertainty whether the *ACTC1* alteration is a polymorphism or a pathogenic mutation. It would also be worthwhile to conduct a neurological examination in family members who did not show LVHT. Were creatine-kinase serum levels normal in all investigated patients?

Overall, this interesting report could benefit from clarification of some inconsistencies. It is also important to discuss the absence of LVHT on echocardiography in patient IV:1. The more details that are provided about patients or families with LVHT, the more likely the cryptogenic pathogenesis of this still enigmatic myocardial abnormality will be clarified.

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The Genetic Background of Left Ventricular Hypertrabeculation/Noncompaction Remains Vague. Response



El trasfondo genético de la hipertrabeculación/miocardiopatía no compactada ventricular izquierda sigue sin estar claro. Respuesta

To the Editor,

We appreciate the comments by Drs Finsterer and Zarrouk-Mahjoub.

These authors seem to question the genetic basis of left ventricular noncompaction (LVNC), contradicting the position of the European Society of Cardiology/American Heart Association (ESC/AHA).^{1–3} Although helpful, functional studies are not routinely performed. Instead, evidence in the literature, cosegregation, consequences in the protein and in silico studies are usually employed (as we did). Mutation carriers may not exhibit the phenotype because of an incomplete penetrance² and diagnostic difficulties, such as different sets of criteria, suboptimal echocardiographic quality and reproducibility,³ and unavailable magnetic resonance imaging.

Is LVNC acquired? Can it disappear? These issues are unresolved^{2,4} and have not been addressed.

In silico studies are not the only data to assess a mutation. Additional information supported the pathogenic effect of *ACTC1*^{I289T} (third paragraph, page 859). The genetic heterogeneity of LVNC is unquestionable.^{2,3}

The preferred term is LVNC (PubMed) and the ESC considers “hypertrabeculation” to be incorrect.⁴ Even so, the above-mentioned authors prefer LVHT. We use LVNC if the criteria are fulfilled and hypertrabeculation (see the Figure in the paper by

Rodríguez-Serrano et al.⁵) when these criteria cannot be assessed. Accordingly, hypertrabeculation for the heart explant (histologic criteria for LVNC are lacking) should also have been used within the text, but was changed for LVNC because of word count constraints.

Individuals II:4 and III:4 fulfilled the criteria of Chin and Stöllberger whereas individual III:6 did not.

The echocardiogram of patient IV:1, thoroughly reviewed, lacked LVNC. There were no histopathologic studies or stored pictures or tissues. Image acquisition limitations at the intensive care unit (small infant heart with an LV assist device) could explain the discrepancy but it is also possible that no discrepancy was actually present, the situation being a cardiomyopathy presenting with different phenotypes, namely restrictive cardiomyopathy in an infant (which can also be caused by *ACTC1* mutations⁶) and LVNC in adults. Many circumstances may account for this phenomenon (age-dependent expression of modifier genes, additional mutations. . .).

Finally, neurological signs/symptoms and creatine kinase elevation were ruled out.

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