LETTERS TO THE EDITOR

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Spasm provocative test in troponin-positive patients with acute chest pain and no significant coronary artery disease

We read with great interest the article by Baccouche et al.1 In line with previous studies,2,3 the authors confirm that in the absence of significant coronary artery disease, myocarditis is the most frequent diagnosis of troponin-positive patients with acute chest pain. However, coronary artery spasm is also very common in these patients and, as the authors acknowledge, the lack of spasm provocative test in their series is a limitation.

We have recently published the data of the VIRIATO (Vasospasm Incidence Registered after Investigation with Angiography and Tested Objectively with ergonovine) registry that included 346 consecutive patients of our centre with acute chest pain and no significant coronary artery disease.4 If we focus on the 187 patients with troponin-T elevation, 64 patients (34.2%) presented coronary spasm. In 42 patients (22.5%), this diagnosis was confirmed with a spasm provocative test, and in 22 patients (11.8%) was based on chest pain characteristics, ECG changes during chest pain (ST-segment elevation), and a rapid resolution with sublingual nitroglycerin. Other diagnosis mentioned by Baccouche et al., such as Tako-Tsubo cardiomyopathy, was less frequent in VIRIATO patients with troponin-T elevation. In fact, only 19 patients (9.1%) presented Tako-Tsubo cardiomyopathy.5

We agree with Baccouche et al. that in troponin-positive patients with acute chest pain and no significant coronary artery disease, cardiovascular magnetic resonance imaging and, in some cases, endomyocardial biopsy are useful diagnostic tools. However, we think that spasm provocative tests also have an important role in the diagnostic process of many patients with these characteristics.

References

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Spasm provocative test in troponin-positive patients with acute chest pain and no significant coronary artery disease: reply

We would like to thank Martinez-Selles et al. for their interest in our study1 and also to congratulate these authors on their VIRIATO registry which focuses on the incidence of coronary spasm in patients with chest pain but no significant coronary artery disease (CAD).2 We absolutely agree with the remark of these authors suggesting that (i) coronary spasm needs to be considered as a potential cause for troponin elevation in patients with acute chest pain but no significant CAD and (ii) provocative testing (e.g. using intravenous ergonovine or intracoronary acetyicholine) should be performed in order to evaluate the presence of coronary spasm. This important issue is a limitation of our retrospective study.

The results of these authors’ VIRIATO registry are in line with the study of Wang et al.3 who performed ergonovine provocation testing in 93 patients with unstable angina but no significant CAD: coronary spasm as the underlying cause of chest pain was detected in 41% of those 93 patients and considering the subgroup of patients with positive troponin (23/93), even in 74%. Moreover, our group has recently published intracoronary provocative testing results in 86 patients with acute chest pain but no significant CAD: in 49% of these patients, coronary spasm was documented by intracoronary acetycholine testing, thereby concluding that coronary spasm should be regularly considered as a differential diagnosis in such patients. Consequently, in the meantime, intracoronary provocative testing is recommended (Class IIa) in the ESC guidelines on the management of angina pectoris in order to identify coronary spasm in patients with appropriate clinical symptoms but no significant CAD.5

However, pathophysiological issues get complicated when we take a closer look on patients with (clinically suspected) myocarditis. We have previously performed...