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Detection of High-sensitivity Troponin T in Patients With Cardiovascular Risk



Detección de troponina T ultrasensible en pacientes con riesgo cardiovascular

To the Editor,

We believe that the timely work of Álvarez et al.,¹ which recorded the proportion of the asymptomatic population with very high cardiovascular risk with detectable high-sensitivity cardiac troponin T, requires a number of qualifications, particularly for clinicians who are unfamiliar with the acute problems that can arise when treating these patients.

First, high-sensitivity cardiac troponin T was detected in almost all patients in their registry. However, truly high-sensitive methods should be able to detect cardiac troponin in most healthy individuals.² In this case, the Roche Diagnostics Cobas 6000 analyzer can detect cardiac troponin in between 40% and 50% of healthy patients.³

Second, the 99th percentile value is already known to identify a greater number of at-risk patients, and values even lower than the 99th percentile that are still detectable have a prognostic value for future adverse cardiac events.⁴

In addition, about 10% of patients with stable coronary artery disease have values above the 99th percentile of the reference population.⁵ Even in the general population, more than 2% of individuals show high-sensitivity cardiac troponin T elevations higher than the 99th percentile.⁶

Studies of patients with chest pain suggest the value of a single determination in patients at low ischemic risk if troponin cannot be detected (< 3 ng/L).⁷

Given the importance of the 99th percentile in the treatment of these patients with cardiovascular risk, its determination should be as accurate as possible because there are also differences among the tests used and other factors are crucial, such as ethnicity and race, sex, age, and the number of study participants.³

There are currently no universal recommendations for how to select the reference population, which is why it is highly likely that these values are not appropriate, complicating efforts to reach consensus in decision making.

Another matter that we would like to comment on is the association with mortality in these patients. In the 1990s, it was shown that, among patients with unstable angina (negative creatine kinase MB), cardiac troponin elevation was associated with markedly higher in-hospital mortality.⁸ A similar association has been shown in patients with heart failure, pulmonary hypertension, or renal failure.^{9,10}

As the authors correctly conclude, high-sensitivity cardiac troponin T is detectable in almost all asymptomatic patients with cardiovascular risk, although their results cannot be generalized

to high-risk populations. Unfortunately, physicians have started to doubt that the use of high-sensitivity cardiac troponin T represents a significant clinical advance¹¹ and worry that they perform too many tests and referrals in those patients with cardiac troponin elevation.

Thus, articles such as that by Álvarez et al. can help to optimize the handling of cardiac markers in the medical community.

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