Controversy

Universal definition of MI: Above 99 percentile of upper reference limit (URL) for hs-cTn: Yes, but which URL?☆☆☆

Mehmet Agirbasli, M.D.
Department of Cardiology, Medeniyet University School of Medicine, Goztepe Kadikoy, Istanbul, Turkey

A R T I C L E  I N F O

Article history:
Received 11 November 2018
Received in revised form 16 December 2018
Accepted 27 December 2018

A B S T R A C T

The definition of myocardial infarction (MI) is based on the detection of high-sensitive cardiac troponin (hs-cTn) levels above the 99th percentile of upper reference limit (URL) value for a healthy reference population [1]. In the era of hs-cTn assay and the 4th definition for MI, the distinction between the injury and infarction is crucial for the clinician. Measurable troponin is present in the blood of healthy adult subjects. Thus, the calculation of the 99th percentile URL depends on the selected reference population. There is no consensus in the definition of ‘reference population’ among hs-cTn manufacturing companies. For example, gender, age, ethnic and populational differences affect the URL for hs-cTn assay. The URL level is substantially higher in elderly as compared with younger patients. Elevated levels of cTn are found in up to 22% of persons living in the community who are 70 years of age or older. Similarly, men have significantly higher URL levels compared to women.

The definition of MI covers a wide variety of systemic conditions that can affect the myocardium through injury or infarction [1]. Professional societies have published their recommendations to solve the pre-analytic and analytic controversies in hs-cTn assay. In conclusion, hs-cTn assays have revolutionized the practice of cardiology. Universal healthy normal pool and consideration of different cut off levels for different populations (i.e. elderly) can potentially help to standardize the interpretation of the hs-cTn test.

© 2018 Elsevier Inc. All rights reserved.

References


☆ There is no funding institution.
☆☆ There are no conflicts of interest.
E-mail address: magirbasli@gmail.com.