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Letters

Challenges Before Considering to Monitor Patients With cTnT as Identification Tool for High Mortality Risk

We read the paper by Chesnaye et al[1] with great interest. Their study reports that longitudinally measured cardiac troponin T (cTnT) is associated with mortality risk in older patients with chronic kidney disease (CKD).[1] Chesnaye et al[1] conclude that monitoring patients with cTnT can be valuable for the identification of patients with a high mortality risk. A median of 6 cTnT measurements were collected over a median of 2.4 years.

The Academy of the American Association for Clinical Chemistry has indicated that in addition to sex, age and ethnicity of the reference population can affect baseline cTnT levels.[2] The change in cTnT over time can result from analytical and/or biological variations (ie, preanalytical and analytical laboratory analysis and inherent intraindividual biological variation).[2] Reference change value (RCV) needs to be calculated to determine biological variation in serial testing of cTnT.[3] Variances in cTnT results within a patient over time (CVI) will affect the results at this point.[3] If the CVI of cTnT in older patients with CKD is low, the number of samples needed to establish the efficacy of cTnT would be low, as assessed in the study. Conversely, if the CVI is high, then the number of samples needed to draw the line will be excessive, and cTnT will not be useful as a monitoring tool in older patients with CKD. My understanding is that there is no consensus on the CVI in older adults with CKD. Conjoint analytical and biological variations remain high for high-sensitivity-cTn assays.[2,3] This issue is particularly important because RCV can influence the interpretation of serial testing results.[3] In conclusion, using cTnT as a mortality assessment tool will be practical only after acknowledging the limitations of the current analytical platforms.

*Mehmet Agirbasli, MD

*Department of Cardiology
Medeniyet University School of Medicine
Goztepe Kadikoy
Istanbul, Turkey
E-mail: magirbasli@gmail.com

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