EDITORIAL

Heart, Vessels and Transplantation 2022; 6: 162-163
DOI: 10.24969/hvt.2022.346

2021 AHA/ACC/ASE/CHEST/SAEM/SCCT/SCMR Guideline for the Evaluation and Diagnosis of Chest Pain: a cardiac imager´s perspective in the assessment of stable chest pain

The 2021 AHA/ACC/ASE/CHEST/SAEM/SCCT/SCMR Guideline for the Evaluation and Diagnosis of Chest Pain (1) was developed by the American College of Cardiology and the American Heart Association in conjunction with some imaging societies and other organizations, in an attempt to put together the best evidence for the evaluation of patients with acute or stable chest pain. In regards to stable chest pain/ suspected stable ischemic heart disease, some key points have been raised in a prior editorial (2): "1) imaging should be used selectively; 2) testing should be avoided when the diagnostic yield is low; 3) test layering should be avoided when possible; and 4) lower cost options should be prioritized when outcomes are similar".

In this path, the guideline recommends the initial assessment of pretest risk probability to define the need of diagnostic testing, and then choose the most appropriate test. As prior risk scores have been shown to overestimate the probability of coronary artery disease (CAD), especially in women (3, 4), a modified, more contemporary risk score (5) was incorporated, which suggests the use of coronary artery calcium score (CAC) to refine the clinical risk stratification. It is worth noting that the probability estimates refer to patients with chest pain or dyspnea, the latter being a possible anginal equivalent.

Briefly, according to the guidelines, for patients with stable chest pain and no known CAD categorized as low risk, besides the possibility of deferring diagnostic testing, both CAC and exercise testing without imaging were considered reasonable first-line tests, the former for excluding calcified plaque and identifying patients with a low likelihood of obstructive CAD, and the latter for excluding myocardial ischemia and determining functional capacity in patients with an interpretable electrocardiogram.

Among intermediate- to high-risk patients with stable chest pain and no known CAD, coronary computed tomography (CT) angiography (CTA) or stress imaging (stress echocardiography, positron emission tomography [PET]/single-photon emission computed tomography [SPECT], or cardiac magnetic resonance [CMR]) are recommended as options.

Among patients with stable chest pain with known CAD, medical treatment with deferred testing is an option, but if there are persistent symptoms, CTA or invasive angiography (especially if high-risk CAD or frequent angina are present) or stress testing are recommended.

It is worth noting that these guidelines were not endorsed by the American Society of Nuclear Cardiology (ASNC), even though that organization provided input during the construction of the guideline. As stated by Thompson et al. (6), "Although the members of the Board of Directors appreciated a number of positive things about this document and appreciated the collaborative effort on the part of ACC and AHA leadership, the Board ultimately concluded that the shortcomings were too great to warrant endorsement There are many excellent, evidence-based recommendations in the new guideline. There also are some troubling recommendations and some omissions that, in the end, ASNC cannot support". Among the issues were raised by the ASNC, two are especially concerning: 1) the role given to fractional flow reserve (FFR)-CT in the guidelines, as it currently still has limited availability, efficacy, level of adoption, and substantial cost; and 2) the grouping of "functional tests" (exercise treadmill test, stress echocardiography, myocardial perfusion SPECT or PET, CMR), which have different characteristics, particular advantages and disadvantages, accuracies, and cannot be viewed as a unique group.

These are, indeed, relevant points, which do not remove the merits of the guideline for the systematization of the assessment of patients with chest pain, but claim for careful thinking instead of only following flowcharts. It is crucial to also consider patient characteristics and preferences, local expertise, access to and availability of different tests in the decision-making process in the assessment of patients with stable chest pain.

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Received: 22.10.2022 **Accepted:** 23.10.2022

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Peer-review: Internal

Conflict of interest: None to declare
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Acknowledgement and funding: None to declare

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