

Editorial

Concerns regarding “2015 ACR/ACC/AHA/AATS/ACEP/ASNC/NASCI/SAEM/SCCT/SCMR/SCPC/SNMMI/STR/STS: Appropriate Utilization of Cardiovascular Imaging in Emergency Department Patients with Chest Pain”

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The American College of Cardiology (ACC) and the American College of Radiology (ACR) recently published appropriate use criteria (AUC) directed at patients presenting to the emergency department with chest pain, providing guidance regarding the first imaging test to be ordered.¹ This AUC document addresses use of echocardiographic, nuclear, computed tomography, magnetic resonance, and invasive angiography imaging.

The Society for Cardiovascular for Angiography and Interventions (SCAI) and the American Society of Echocardiography (ASE) have declined to endorse the document due to concerns that it would adversely impact the care of patients both by suggesting that entirely guideline-based care is “less than appropriate” and by inviting payers to limit patient access to tests that are labeled M (for “May be appropriate”) in clinical scenarios where other tests are labeled A (for “Appropriate”). The editor of the *Journal of the American College of Cardiology (JACC)* has declined to publish our concerns, stating that letters to the editor are instead referred to the AUC writing committee for consideration in the next version of the AUC document. Thus SCAI and ASE have taken the unusual step of publishing this joint statement detailing our concerns.

First, a word about the generation of AUC. The modified Delphi method has been described in many situations and is the method used for generating the criteria. Initially, a writing panel composes a group of clinical scenarios, thought to cover most of the common presentations for the issue at hand. Members of a separate ranking panel individually vote on the indications, then meet to discuss the votes, and subsequently individually re-rank the indications. The appropriateness rankings reported in the final document are the medians of individual members’ rankings. There are a number of steps where the process can go awry, as we believe happened with this AUC document.

First and perhaps most importantly, many common clinical scenarios are not included in this AUC document. As a result, the scenarios

that are included have ratings that are inappropriate for significant numbers of patients. For several scenarios involving patients with significant likelihood of active coronary artery disease, coronary angiography is rated as “rarely appropriate” and instead a non-invasive study is recommended. However, patients presenting with chest pain suggestive of ongoing ischemia and infarction should undergo early if not immediate cardiac catheterization, a class I recommendation in the ACC/AHA 2014 non-STelevation acute coronary syndrome guidelines.² Additionally, cardiac catheterization is “appropriate” for such patients according to the 2012 Appropriate Use Criteria for Cardiac Catheterization for “suspected acute coronary syndrome” regardless of whether they are at low, intermediate, or high risk as assessed by TIMI risk score.³

Patients with known coronary disease, and particularly those with prior revascularization or known left ventricular dysfunction due to prior myocardial infarction, are at high risk for acute coronary syndromes. The non-invasive imaging recommended by these AUC (e.g., nuclear perfusion imaging or computerized tomographic angiography) may be unable to distinguish new from old pathology, and so will have limited utility in determining the best care plan. In these cases, immediate angiography is likely to be a more efficient and effective diagnostic approach, and should be assigned at least a “may be appropriate” rating, consistent with the IIb recommendation in the 2014 ACC/AHA non-STelevation acute coronary syndrome guidelines.²

These concerns with scenarios and ratings may be the result of the composition of the AUC Writing Panel and Rating Panel. The document states that the “...Writing Panel comprised practicing Emergency Medicine, Cardiology, and Radiology representatives from the relevant professional societies.” However, it did not include a representative of ASE or SCAI (whose members commonly consult on these patients in the emergency department), nor, to our knowledge, any physician who routinely performs invasive angiography. The Rating Panel included only one representative of ASE and no representatives of SCAI. Thus, our societies are concerned that the clinical scenarios and the ratings assigned to them fail to integrate the value of both invasive and noninvasive imaging, may not adequately represent real-life patients, and do not represent current standards of practice. Indeed, it is conceivable that these AUC ratings may lead to substandard care for some patients.

In addition, these AUC deviate from all previous AUC documents in presenting a new rating designation, the M*, used when the rating panel could not reach consensus on a rating for a scenario. No reason is given for introducing this new rating category, and it was not discussed in the 2013 ACC update on AUC methodology.⁴ In previous documents, lack of consensus was noted by an “uncertain” (in older documents) or “may be appropriate” (in newer documents) rating. It is unclear how users of AUC documents will or should interpret M*, and it calls into question the AUC methodology’s failure to

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resolve lack of consensus within a small rating panel. In fact, the well understood M ranking is used only five times, while the new rating M* is used 23 times. Our societies are concerned that an M* rating may be interpreted as suggesting a low level of confidence in the value of a specific service, and might even be used downstream by payers as a reason to withhold coverage. In Clinical Scenario 8 for example, the rating committee could not reach consensus on 8 out of the 9 imaging tests and the 8 received M* ratings. We have suggested to the ACC that it is not advisable to publish a document with so much evidence of lack of consensus.

The AUC document states that the rating of “may be appropriate should not be used as the sole grounds for denial of reimbursement...” We object to the implication that “may be appropriate” could be used to *any* extent as a justification for denial of reimbursement. The concern is that payment denial based on AUC ratings will prevent some patients from receiving care that, for a particular patient and situation, truly is appropriate and necessary as well as burden them with significant out-of-pocket expenses if they prefer (and the guidelines recommend) imaging as the evidence-based modality for their management. These concerns are clearly stated in the 2013 ACC paper on AUC methodology⁴ but are largely missing from this AUC document.

Additionally, rankings of individual tests within scenarios contradict published data, clinical experience, and our own societies’ guidelines.⁵ For example, the rankings for patients suspected of having acute aortic syndromes are inconsistent with a large body of literature that has failed to identify significant differences in diagnostic yield among transesophageal echocardiography (TEE), helical computed tomography, and magnetic resonance imaging in patients with aortic dissection.⁶ However, TEE is given a ranking of M* for stable patients with prior aortic intervention while transthoracic echocardiography (TTE) is given a ranking of M. This strikes us as inconsistent and without reasonable justification.

Another serious objection is to the ranking for TEE in patients suspected of aortic dissection who are hemodynamically unstable. It is well accepted that an unstable patient should not be placed in an MRI scanner. Similarly, aortography is rarely used for diagnosis in the modern era.⁷ However, these two modalities receive the same M* rating as TEE—a common diagnostic method that is quite robust for diagnosing acute dissection. TTE (which has only an 80% diagnostic yield for aortic dissection) is given the same M* ranking. We cannot endorse a document that contains ratings that are not based on the literature and expert opinion and could harm patients.

With respect to patient involvement and shared decision-making, this AUC document considers patient preference only to the extent that it would influence patients to *avoid* invasive catheterization, when it suggests that patients “... simply would prefer a potentially less aggressive management direction.” This fails to acknowledge patients’ desire for prompt, definitive diagnoses and therapies and is based on no scientific evidence. Patients with previous coronary stenting or bypass often prefer to go directly to catheterization because their experience has demonstrated that this is the gateway to effective treatment. Some of these patients may have been frustrated by false negative imaging studies, or by continued symptoms despite unrevealing non-invasive tests. If patient preference is to be considered

in these AUC, it should be considered in a balanced fashion, as suggested by the 2014 non-ST-elevation acute coronary syndrome guidelines.²

Members of our societies are committed to providing appropriate care for their patients, as evidenced by recent data showing that the number of “inappropriate” coronary interventions in stable patients has dropped by half in recent years.⁸ While it is critical to avoid procedures that are not beneficial to patients, it is equally important to advocate for patients to receive procedures that are beneficial to their health and well-being. To that end, SCAI and ASE are obligated to point out these concerns with the “Appropriate Utilization of Cardiovascular Imaging in Emergency Department Patients with Chest Pain,” and decline the invitation from ACC and ACR to endorse it. A better course would be to reconvene the process and start over to get “appropriate” AUCs rather than “inappropriate” AUCs that could negatively influence patient safety and well-being.

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