

EDITOR'S PAGE

Appropriate Use Criteria (AUC) Versus the Heart Team: To Lump or to Split

Decision making regarding the use of revascularization for stable ischemic heart disease has become a central issue. The European guidelines champion the “Heart Team” approach, but the authors dislike the use of “appropriateness.” The American societies have developed multi society scenarios defining the selection of appropriate use criteria (AUC) while also adopting the “Heart Team” approach as the first tenant of the latest guidelines.

Are these approaches complementary or are they in conflict? The indications for procedures are identified by guidelines. The process developed by the American College of Cardiology (ACC)/American Heart Association (AHA) was borrowed by the European Society of Cardiology (ESC), and although there were differences, these were small and both documents clearly stated that they were “guidelines,” based on evidence and opinion, and not “rules.” These guidelines are not designed to dictate therapeutic choices. However, in recent years, the imperative for the profession to police itself has gained traction in many areas of medicine for 2 main reasons. Some procedures which were clearly not needed have received wide publicity, and economic considerations have encouraged the application of therapies where they have the most benefit and avoiding them when benefit is not present. This has led to 2 general concepts for getting the right care to the right people: AUC and the Heart Team.

AUC (1) was developed by the combined effort of 8 professional societies. It defined over 100 scenarios which were rated by a “technical panel” of 17 individuals representing a broad spectrum of noninvasive and invasive cardiologists and surgeons. The scenarios were voted appropriate, inappropriate, or uncertain. A great deal of thought went into judging these scenarios and the group re-evaluated them this year (2012) and made a few changes (2). This scoring system has now been used in 2 studies—one of the National Cardiovascular Data Registry (NCDR) and Society of Thoracic Surgery (STS) databases (3), and one of the New York State databases (4). With the methods defined by the AUC document, up to 14% of procedures on patients with stable ischemic heart disease were classified in the inappropriate category, and the largest number were classified as uncertain. Revascularization for more advanced disease was uniformly rated as more appropriate and less extensive disease as least appropriate. Since patients with the most severe disease are referred for surgery, almost all of these procedures were in the appropriate or uncertain category. Conversely, since percutaneous coronary intervention (PCI) was done on many patients with less extensive disease, the inappropriate classification was more commonly present in those patients. Although there are many scenarios described, and they seem reasonable to the reader, they do not describe all patients. Therefore, this method of improving decision making is a process of “lumping” although there are a lot of “lumps.” What could go wrong? A couple of examples illustrate the need for nuance: scenario #21 describes a patient with Class 3 or 4 angina who has not undergone a noninvasive study and who is found to have 1- or 2-vessel disease of intermediate severity defined as 50% to 60%, and fractional flow reserve or intravascular ultrasound study is not done. This is rated as inappropriate for intervention but there will surely be exceptions as to why a noninvasive test was not performed on this patient with severe angina. On the other end of the spectrum is scenario #43 which describes an asymptomatic patient with a low-risk noninvasive imaging test and no medical therapy, but who is found to have 3-vessel disease. The rating is uncertain (“may be appropriate”). Here, 3-vessel disease gets a pass for revascularization, although any benefit for this patient may be in question. The authors of the



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AUC emphasize that there will be need to drill down to find the best decision in these various scenarios. Others will point to problems of having to draw lines of distinction in producing any classification scheme. They will wonder why stenosis of 70% was chosen. The visual designation of 70% stenosis has frequently been shown to be less when actually measured. For that reason, 70% has been chosen for multiple studies as a cut point for visually identified stenoses. A problem arises, however, when laboratories are more careful and begin to measure stenotic severity and, therefore, may identify flow-limiting lesions that are clearly <70% stenotic. In addition, some will wonder why maximal medical therapy for angina must include at least 2 classes of anti-anginals, i.e., beta-blocker, calcium-channel blocker, long-acting nitrate, or ranolazine. My interest is not to nit-pick about the definitions, because I am certain they will be optimized with future revisions. The authors did an admirable job of identifying these scenarios, but because of the nature of the disease, these categories remain relatively broad. Thus, the lumping methodology.

The other decision-making process is the use of the Heart Team. Both the ESC and the ACC/AHA guidelines now emphasize the value of gaining input from the noninvasive cardiologist, invasive cardiologist, and surgeon, along with the patient in considering therapeutic choices. Since this discussion relates to the specific patient, I would call this the “splitting” of the decision into a very large number equal to all patients. This might be considered the ultimate personalized approach. This method of consultation, which is not novel but is currently emphasized, evolved from the SYNTAX (Synergy Between Percutaneous Coronary Intervention With TAXUS and Cardiac Surgery) study where it was mandated. The logistics of assembling the Heart Team may be daunting and/or limited by economic considerations of who is to be reimbursed. This is less of a problem in systems not utilizing fee-for-service reimbursement. Another problem arises when ad hoc PCI is done, making consultation with others very difficult. The Heart Team approach has been suggested primarily for high-risk patients but could be a value for others in whom surgery is not a consideration. In that case, the surgeon might take the day off.

What are the limitations? The Heart Team does not come with pre-defined rules but depends on the informed judgment of the respective specialists. The AUC establishes “rules” for categories, but the individual patient may not fit comfortably into a scenario. Aspects that have not yet been incorporated into the AUC include: variation in local capabilities to deliver the various therapies, anatomic variations that make PCI or coronary artery bypass grafting less or more reasonable, comorbidities, patient preference, and I am sure many more. Finally, there should be a clear understanding that failing to be classified “appropriate” does not equal “not appropriate.” The AUC states that “uncertain” means “coronary revascularization may be acceptable and may be a reasonable approach for the indication but with uncertainty implying that more research or patient information is needed to further clarify the indication.”

Decision making regarding revascularization is not an exact science, however the efforts to improve that process should be applauded, and the work to define the truly inappropriate procedures should continue because payers are very interested, and if we do not get it right, the patients and the providers will suffer together. I do not know how often a Heart Team recommendation will be in conflict with an AUC recommendation, but it may be “appropriate” to consider both.

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