

GLOSSARY**DUKE CRITERIA**

Criteria used to diagnose infective endocarditis, taking into account positive blood culture, evidence of endocardial involvement, and other factors

AGATSTON SCORE EQUIVALENT

Plaque calcification score obtained by multiplying the area of a lesion by a weighted CT attenuation score based on the maximal CT attenuation for that lesion

Assessment of coronary lesions with 64-slice CT

Researchers from Germany have explored the use of 64-slice CT as a noninvasive means of evaluating atherosclerotic coronary lesions. The results of their study have recently been published in the *Journal of the American College of Cardiology*.

Leber and co-workers recruited 59 consecutive patients with stable angina, 10 of whom had previously undergone angioplasty. The remainder had no previously known coronary artery disease. All patients were examined by 64-slice CT no more than 2 days before catheter-based angiography, and intravascular ultrasound was also performed in a subset of 18 patients.

By comparing the 64-slice CT results with those obtained by angiography, the researchers showed that the technique had a sensitivity of 80% for the detection of lesions that produced stenoses of greater than 75%. The corresponding values for stenoses of greater than 50% and less than 50% were 73% and 79%, respectively. Specificity was 97% in each case. Values for plaque and lumen areas calculated by 64-slice CT agreed closely with those from intravascular ultrasound, but the measurement of the degree of luminal obstruction was less precise.

Noting that the method was limited in terms of measuring the degree of stenosis, the authors conclude that the 64-slice CT approach is a "clinically suitable and robust noninvasive method to detect and quantify obstructive and nonobstructive coronary artery disease".

Ruth Kirby

Original article Leber AW *et al.* (2005) Quantification of obstructive and nonobstructive coronary lesions by 64-slice computed tomography: a comparative study with quantitative coronary angiography and intravascular ultrasound. *J Am Coll Cardiol* [doi:10.1016/j.jacc.2005.03.071]

Identifying surgical candidates among prosthetic-valve endocarditis patients

Prosthetic-valve endocarditis (PVE) is regarded as the most serious complication of valve replacement and is associated with a high risk of mortality. There is disagreement, however, over whether surgery or medicine is the more effective treatment strategy. Habib and co-workers addressed

this issue in a recent study, which they report to be the largest published series of strict cases of PVE as defined by the DUKE CRITERIA.

A total of 104 consecutive PVE patients were enrolled in this retrospective, nonrandomized study carried out at two French centers. Fifty-one patients were selected by their surgeon and medical team to undergo valve replacement with a bioprosthesis, mechanical valve or homograft ($n = 19, 15$ and 17 , respectively); the rest of the study group underwent medical treatment.

For the group as a whole, the difference between in-hospital mortality in surgical and medical patients was found to be not statistically significant; however, both in-hospital and long-term mortality were lower in surgically treated high-risk patients with staphylococcal PVE or PVE with complications than in those treated medically.

The authors found early PVE (occurring ≤ 12 months after surgery), congestive heart failure, staphylococcal infection and PVE with complications to be markers of poor outcome. Patients with early staphylococcal PVE and PVE with complications were identified as subgroups for which surgery should be strongly recommended. Because of high long-term mortality results, rigorous follow-up after the first PVE episode is advised.

Pippa Murdie

Original article Habib G *et al.* (2005) Prosthetic valve endocarditis: who needs surgery? A multicentre study of 104 cases. *Heart* **91**: 954–959

Calcium concentration of individual plaques: a new marker of coronary calcification?

A recent study has shown that the calcium concentration of calcified plaques is independent of age and sex, but heterogeneous within subjects.

Previous studies have used global measurements of coronary artery calcium such as AGATSTON SCORE EQUIVALENT to assess the progression of coronary artery calcium or plaque burden. Moselewski and colleagues assessed the value of measuring calcium concentration in individual calcified plaques and its relationship to other parameters derived from CT analysis of coronary calcium. Coronary artery calcium was analyzed in 612 participants of the Framingham Heart Study using multidetector row CT. A total