previously be evaluated. An example of the first advantage is a study that used multiplanar 3D echo reconstruction and anatomical references to reliably assess the structures of the tricuspid valve. This method established 6 echocardiographic cross-sections permitting the localization (now precise) of the possible tricuspid valve findings.[5] The second advantage is illustrated by anatomical evaluation in the context of structural interventional cardiology. In this situation, beyond the indication, device selection, and implant monitoring, 3D echo provided information on the anatomofunctional mechanisms influencing procedural outcomes,[6] which is why this technique is destined to play an even greater role in the treatment of valvular heart diseases.

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Selection of the Best of 2016 in Cardiac Computed Tomography

Selección de lo mejor del año 2016 en tomografía computarizada cardiaca

To the Editor,

Research in cardiac computed tomography (cardiac CT) in 2016 has been marked by analysis of 3 important studies published in 2015, namely the PROMISE, SCOT-HEART and PLATFORM trials, which were designed to assess the potential role of cardiac CT in clinical practice. In the PROMISE trial, conducted in patients with intermediate-risk chest pain, the clinical results of cardiac CT were similar to those of ischemia testing. In the SCOT-HEART study, adding cardiac CT in patients who had already been studied with a conventional method improved the final diagnosis, allowing the adoption of a more suitable treatment approach. Finally, the PLATFORM trial showed that the combined noninvasive study of the coronary anatomy and coronary flow reserve with CT drastically reduced the number of patients undergoing invasive coronary angiography with a normal result (from 73% to 12%).[1]

A reflection on the PROMISE trial is that patients with obstructive coronary artery disease only accounted for 15%, while it had previously been calculated with the Diamond and Forrester

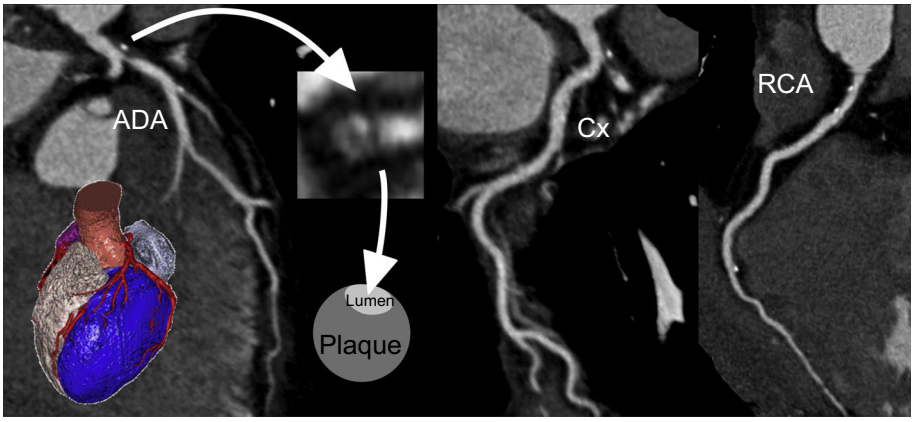

Figure. Cardiac CT assessment of the coronary anatomy in a patient with chest pain. There is a large plaque in the distal trunk, which extends to the anterior descending artery and causes severe ostial stenosis. The low-attenuation, obstructive plaque causes vessel remodelling. It therefore fulfils all the high-risk criteria. ADA, anterior descending artery; CT, computed tomography; Cx, circumflex artery; RCA, right coronary artery.

scale that this figure should be around 53%. This result demonstrates that our clinical criteria actually have a very low predictive ability and that many tests may be unnecessarily performed with a negative result. Furthermore, irrespective of the strategy followed with the patients, the event rate is very low, at around 1% or 2%. These results have led many authors to state that the detection of coronary artery disease must be improved and simplified. The CRESCENT[2] trial was designed with this approach in mind. A simplified CT protocol based on calcium scoring, with full coronary study only being performed when calcium could be detected, was associated with a similar clinical result to ischemia tests, but with a lower cost, shorter time to final diagnosis, and a surprising trend toward a reduction in events during the follow-up period.

Another important reflection comes from analysis of the ability of cardiac CT results to guide treatment in patients in the SCOT-HEART[3] trial. Demonstration of coronary arteriosclerosis with CT led to increased prescription of preventive measures (especially treatment with aspirin, statins, and angiotensin converting enzyme [ACE] inhibitors) and was associated with a 50% reduction in the incidence of death or infarction (17% vs 34%; relative risk, 0.50; 95% confidence interval, 0.28-0.88; $P = .020$) compared with standard care. While the number of events is too low to allow definitive conclusions to be drawn, this study is highly significant, as it is the first to suggest that cardiac CT assessment of the coronary anatomy allows us to choose the most appropriate treatment and change patient prognosis (Figure). In this line, the Motoyama group[4] has demonstrated that there are high-risk morphological signs (low attenuation plaques, positive vessel remodelling) which allow us to choose the group of patients (approximately 10%) who have the highest risk (10 times higher) of experiencing events during the follow-up period. A common result in the PROMISE, SCOT-HEART and PLATFORM trials is that cardiac CT allows better selection of patients who should undergo invasive coronary angiography.

A significant finding in the field of interventional cardiology is that cardiac CT has allowed us to confirm that a not inconsiderable number of patients with percutaneous implantation of an aortic prosthetic valve show reduced mobility of the prosthesis leaflets which is not associated with signs of prosthetic valve dysfunction in the echocardiogram and which returns to normal after anticoagulant treatment with heparin. It has been suggested that this change could be a form of subclinical thrombosis of the prosthetic valve whose clinical significance is still unknown.[5]

Finally, it is important to be aware that the leading imaging societies have published a consensus document in which they propose a standardized nomenclature for creating coronary study reports: the CAD-RADS classification.[6] This classification will improve the reporting of results and will make the decision-making process easier with regard to patient treatment.

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Selection of the Best of 2016 in Cardiac Imaging: Advances in Stress Cardiac Magnetic Resonance

Selección de lo mejor del año 2016 en imagen cardiaca: Novedades en cardiorresonancia magnética de estrés

To the Editor,

In the last decade, stress cardiac magnetic resonance (CMR) imaging has become well-established as an excellent technique for the diagnosis and prognostic stratification of patients with acute or chronic ischemic heart disease.

The main advantages of CMR over other stress techniques relate to the high spatial and temporal resolution (superior to myocardial perfusion scintigraphy), the lack of ionizing radiation, and the high-quality images that are not limited by an echocardiographic window. Stress CMR is diagnostic in more than 97% of cases[1] and can be successfully performed and interpreted in 95% of patients with a body mass index $\geq$ 30. The images allow diagnosis of subendocardial ischemia, nontransmural necrosis, viable myocardium, and dysfunctional myocardium in patients with ischemic heart disease.

Another advantage of stress CRM is its safety and low complication rate. A recent study by Monmeneu et al.,[1] which