Atrium

This issue starts with an article by Fernando A. Navarro on the incorrect use of common symbols in scientific texts, which physicians will use on multiple occasions throughout their careers.

Among the editorials, Tomberli et al. discuss the history of coronary artery stents, from the first coronary angioplasty in 1977 to the advent of stents and their subsequent evolution: bare metal stents, drug-eluting stents, and bioresorbable stents. The advantages and disadvantages of each type of stent are discussed in a brief and easy-to-follow way, and the authors also include a paragraph on future directions in this complex and continually expanding field.

In another editorial, Baron-Esquivias and Morillo discuss the most important findings of the SPAIN study (*J Am Coll Cardiol.* 2017;70:1720-1728). This was a randomized, double-blind, prospective, multicenter study conducted in the population with recurrent syncope and asystole during the tilt table test that compared the usefulness of DDD-CLS pacing with DDI pacing. The article also briefly describes the studies that have included patients with a tilt table test-induced cardioinhibitory response to analyze the utility of DDD-CLS pacing in reducing vasovagal syncope. The authors conclude that DDD-CLS pacing reduces the burden of syncope and prolongs the time to first syncope by up to 7-fold, and also prolongs the time to first recurrence compared with DDI pacing.

Obstructive sleep apnea affects 3% to 7% of the general population, and produces blood oxygen desaturation and restoration, changes in intrathoracic pressure and frequent brief moments of arousal, triggering a cascade of abnormalities, including an increase in sympathetic activity and oxidative stress and generating a proinflammatory state that is ultimately associated with an increase in cardiovascular risk. Nevertheless, the SAVE study did not demonstrate a benefit of continuous positive airway pressure on the primary endpoint, a composite of death from cardiovascular cause, acute myocardial infarction, stroke, or hospital admission for unstable angina, heart failure, or transient ischemic attack. In the last editorial in this issue, Mediano et al. discuss the findings of this study and other studies from the perspective of clinical cardiology, which we believe will be highly useful to our readers.

In the first original article in this issue, de la Torre Hernández et al. evaluate angina and ischemia in the long-term in patients treated with bioresorbable vascular scaffolds and metallic drug-eluting stents. This was a substudy of the ESTROFA study and included 102 patients treated with bioresorbable vascular scaffolds and 106 with metallic drug-eluting stents. There were no differences in the patients' baseline characteristics. At 2 years' follow-up, angina was evaluated with the self-administered Seattle Angina Questionnaire and inschemia was quantified with stress echocardiography. Angina recurrence was similar in both groups, but better functional status, assessed by the Seattle Questionnaire and by exercise performance, was found in the group treated with bioresorbable vascular scaffolds. The findings are thought-provoking but, because this was an observational study, they require confirmation in future studies.

In the next original article, Fuentes et al. used intravascular ultrasound in 114 patients with confirmed late or very late stent thrombosis, of whom 45.5% were treated with bare-metal stents and 54.5% with drug-eluting stents. Thrombosis was diagnosed after a mean of 4 and 3.5 years in bare-metal and drug-eluting stents, respectively. Curiously, malapposition was the most common finding in patients with late and very late thrombosis, and was most prevalent in drug-eluting stents showing very late thrombosis. However, neoatherosclerosis was only observed in patients with very late thrombosis and mainly in those with bare-metal stents. The authors should be congratulated for this well-performed study, which represents the largest series to have analyzed the differences between the 2 types of stent through intravascular ultrasound.

Baeza Garzón et al. report a study conducted in patients with anterior acute myocardial infarction who received regenerative treatment through intracoronary bone–marrow-derived mononuclear cell transplant. Specifically, they analyzed the relationship between changes in left ventricular and microvascular function in 88 patients. Although there was an increase in mean ejection fraction (from 37 ± 8% to 46 ± 12%) and coronary flow reserve (from 1.6 ± 0.5 to 2.3 ± 0.9), there was no correlation between parameters of left ventricular function and microvascular parameters at follow-up. This is undoubtedly an interesting study in an extremely complex field, in which we may have to wait for some time before we see consistent results.

Lamiquiz-Moneo et al. report a study on genetics aiming to analyze the contribution of single nucleotide variants to low-density lipoprotein cholesterol (LDLc) in probands with genetic hypercholesterolemia without mutations in candidate genes. Another aim was to establish the value of a genetic score based on the frequency of these variants in cascade screening in family members. Briefly, the study was conducted in 49 families (294 participants), and found that families with this type of hypercholesterolemia concentrated risk alleles for high LDLc but that the contribution of these alleles varied widely among families. The genetic score explained a small percentage of LDLc, limiting its use in diagnosis.

In the last original article in this issue, Amat-Santos et al. analyze the impact of of moderate vs none-to-mild mitral regurgitation and its trend, as well as the impact of concomitant tricuspid regurgitation and its interaction with mitral regurgitation in 813 patients undergoing transcatheter aortic valve implantation (TAVI) between 2007 and 2015 with mitral regurgitation ≤ 2 (transfermoral approach). The presence of mitral regurgitation did not lead to higher mortality in the short- to mid-term after TAVI, but did lead to more rehospitalizations. However, the presence of moderate/severe tricuspid regurgitation was associated with higher mortality. This study, which provides original data on a constantly-expanding topic, could be useful in the assessment of patients requiring TAVI.

In 2014, the first magnetic resonance system managed by a cardiology service was implanted in *Hospital Clínico Universitario de Valladolid,* a hospital within the Spanish national health system, with the aims of improving the health care process and training and research within the department. In a special article in this issue, the departmental chief, Dr. Sánchez and his coauthors report the results from July 2014 to May 2017, with 3422 cardiac magnetic resonance scans. We believe that the type of study, the diagnoses supported by these studies, and examination time, etc., as well as how these aspects were managed, will be of great interest to other cardiology departments that may become involved in the management of magnetic resonance systems.

The term hybrid imaging refers to the merging of information obtained from various imaging techniques. It is most commonly applied in ischemic heart disease, as it allows evaluation of both the presence, extent and severity of coronary disease, as well as their effects on hemodynamic status and myocardial function. This issue includes 2 expert reviews on the topic. In the first, Wiley et al. discuss basic concepts in fusion imaging and the strengths and weaknesses of dynamic and static imaging modalities, concentrating mainly on echocardiographic-fluoroscopic fusion imaging and its application in transcatheter structural heart procedures. In the second review, Giannopoulos and Gaemperli discuss the hybrid imaging techniques currently available in clinical practice, mainly in ischemic heart disease, as well as the promising future technological innovations in this field.

As always, don't forget to take a look at the excellent images in this issue or read the letters. We also encourage you to take part in our monthly ECG Contest.

Ignacio Ferreira-González
Editor-in-Chief

1885-5857/$ - see front matter