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Editorial

Percutaneous Renal Sympathetic Denervation

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Drug-resistant arterial hypertension is defined as the high blood bressure pressure that remains uncontrolled, despite treatment with at least three drugs at the maximum tolerated doses. These patients have a 50% higher chance of developing adverse events when compared to those with controlled blood pressure. Increased activity of the sympathetic nervous system and the renin-angiotensin-aldosterone II system is the physiopathological basis of this condition; the connection between these two systems is formed by the network of sympathetic fibres located in the adventitia of renal arteries. These nerves can be targeted by the application of radiofrequency (RF) energy, released by catheters positioned in the lumen of renal arteries, an approach that has attracted considerable interest over the past two years.

In this issue of **Revista Brasileira de Cardiologia Invasiva (Brazilian Journal of Invasive Cardiology – RBCI)**, we present two articles, with their respective editorials, addressing the initial experience in Brazil with percutaneous renal sympathetic denervation. Staico et al., from the Instituto Dante Pazzanese de Cardiologia (São Paulo, SP), present their unpublished work, in which they compare the effects, on different tissues, of different types of catheters, as well as powers and times of application of RF in an experimental model with renal arteries *ex vivo*. One of the three catheters used was an electrode irrigated with saline solution, which demonstrated improved safety and efficacy in intracardiac ablation when compared to non-irrigated catheters. In his editorial, Healey, from McMaster University (Hamilton, Canada), congratulates the authors for their cautious approach in conducting the experiment, but reminds that the use of these catheters is an off-label indication for renal sympathetic denervation, and such techniques, different from those already tested, should be subjected to the same assessment performed with dedicated catheters.

Armaganijan et al., from the Instituto Dante Pazzanese de Cardiologia (São Paulo, SP), assess the quality of life of the first patients undergoing renal sympathetic denervation for resistant hypertension. They administered the EuroQol-5 Dimensions (EQ-5D-5L) questionnaire before and three months after the procedure. This questionnaire, which assesses health status, consists of a descriptive system that defines quality of life in five dimensions (mobility, self-care, usual activities, pain/discomfort and anxiety/depression), with five different levels of severity and a visual scale ranging from 0 to 100, in which patients indicate perception of their health status. It is interesting to observe the low health scores of patients with resistant hypertension and which findings are associated with improved health status after the procedure.

Quadros, from the Instituto de Cardiologia/Fundação Universitária de Cardiologia (Porto Alegre, RS), one of the pioneers in the study of quality of life in Brazil, recalls the importance of addressing this issue, in addition to the concern about prolonged survival, regarding treatments given to patients. He congratulates the authors for the initiative, but states that other studies should be performed to clarify pending issues, such as the reproducibility of the positive results of the Symplicity Trial, with the use of cardiac ablation catheters.

Two other studies evaluate contemporary therapies in the interventionist area. Pinton et al., from Instituto do Coração do Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo. São Paulo, SP, Brazil, assess patients admitted with acute coronary syndrome who had femoral artery pseudoaneurysm after percutaneous procedure, treated with ultrasound-guided thrombin injection. They demonstrate the high success rate of the technique, regardless of the pseudoaneurysm complexity and the use of dual antiplatelet therapy. It is an attractive option in experienced hands, compared to ultrasound-guided pseudoaneurysm compression or surgery.

Guimarães et al., from the Instituto Dante Pazzanese de Cardiologia (São Paulo, SP), present the evolution of patients with *de novo* coronary lesions in native vessel or bypass surgery, and angiographic characteristics such as thrombus, ulceration, and filling defect; and/or in the presence of acute coronary syndrome, treated with the MGuard™ stent. This is a stent whose metal struts are covered with a dual polymer network, designed specifically for the prevention of distal embolization during percutaneous coronary intervention (PCI). The importance of this study lies in the extensive angiographic characterization and the procedure technique,

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which allows for the operational evaluation of the device performance. The in-hospital and late clinical outcomes should be interpreted in the context of the small series of treated patients.

Finally, we invite readers to explore in depth the other articles in this issue, with topics that range from antithrombotic drug-therapy post-primary PCI from the national ACCEPT registry, to transradial PCI in the elderly, PCI in insulin-using diabetics, radiological exposure in patients with complex lesions submitted to PCI, radiological exposure in patients undergoing procedures by radial approach, use of ultrasound associated to virtual histology to evaluate the necrotic core of coronary lesions in areas with positive vascular remodeling, and the percutaneous occlusion of patent ductus arteriosus in adults.

Enjoy your reading!

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Editor