

RBCI: A Space for Innovation

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Interventional cardiology is characterized by the use of innovative technologies, which have progressively changed the scenario of cardiovascular-disease treatment, especially more complex pathologies, currently successfully addressed in a less invasive manner. Next-generation drug-eluting stents; bioresorbable vascular scaffolds; cutting-edge imaging methods, such as optical coherence tomography; and prosthesis for percutaneous treatment of structural, valvular, and congenital heart disease, are all part of the content offered by every issue of the Brazilian Journal of Invasive Cardiology (Revista Brasileira de Cardiologia Invasiva – RBCI). This issue is not an exception and features a comprehensive panel of the application of these new technologies, as discussed below.

Chamié et al., from Instituto Dante Pazzanese de Cardiologia in São Paulo, SP, Brazil, show in a previously unpublished study, the incidence and evolution of edge dissections after implantation of bioresorbable vascular scaffolds, high-profile prostheses, with thicker struts requiring more rigorous technique for implantation. They describe in details the qualitative and quantitative morphometric aspects of the dissections and the healing process evolution, with high-resolution serial images of the optical coherence tomography.

Siqueira et al., from Instituto Dante Pazzanese de Cardiologia and Hospital do Coração Associação do Sanatório Sírio, also located in São Paulo, SP, Brazil, demonstrate the impact of the learning curve in patient selection, technical aspects, and clinical outcomes of catheter implant of aortic prosthesis, from the multidisciplinary group with the most experience in this procedure in Brazil. Using prostheses such as CoreValve®, Edwards SAPIEN XT®, and Acurate TF®, the authors observed that a smaller amount of contrast was used during the intervention with the implementation of the specific imaging protocols, and fluoroscopy and procedure times reduced as greater skill was acquired. Additionally, they obtained a reduction in mortality at 30 days to 4% and decreased length of hospital stay to 6.8 ± 3.3 days in the most recently treated group.

Souza et al. present a subanalysis of the iWonder study, performed at Hospital São Paulo, Escola Paulista

de Medicina, Universidade Federal de São Paulo, São Paulo, SP, Brazil. The morphological characterization of culprit lesions in patients with myocardial infarction with ST-segment elevation treated with fibrinolytic agents was performed through intravascular ultrasound, in grayscale, and tissue ultrasound, using iMAP® technology. This is a relevant study, as much is still being debated regarding the composition of atherosclerotic plaques that evolve from a stable to unstable situation with the consequent outbreak of the thrombotic event, and subsequent coronary ischemia.

Bergoli et al., from Hospital de Clínicas de Porto Alegre, in Porto Alegre, RS, Brazil, evaluated whether the mean platelet volume may predict coronary flow of the treated vessel, as well as adverse cardiovascular outcomes in patients with myocardial infarction with ST-segment elevation undergoing primary percutaneous coronary intervention. Mean platelet volume, automatically calculated by the majority of equipment that makes blood cell count, is a simple, inexpensive, and readily available method in hospital and outpatient settings.

Ribeiro et al. present a multicenter study with percutaneous implantation of the Melody® valve, developed to treat pulmonary valve disorders in prosthetic conduits and prolong its lifespan. Technical details of the procedure with their respective images accompany the results of this initial experiment in Brazil. Piazza et al., from Policlinico San Donato IRCCS, from San Donato Milanese, Italy, in a related editorial, comment the literature data, the current limitation of the device use, and its off-label use, which is justifiable in some scenarios. Finally, they praise the results of the study, in line with the international experience.

Other original articles in this issue address several subjects, such as the outcome of patients treated at Instituto Dante Pazzanese de Cardiologia in the OPTIMIZE study; the results of intravascular ultrasound in the comparison of everolimus-eluting DES with a durable polymer and biolimus A9 with bioabsorbable polymer; the impact of arterial injury, as assessed by the balloon/artery ratio, on the neointimal obstruction volume after implant of zotarolimus-eluting DES; the impact of the SYNTAX score in the prognosis of patients with multivessel coronary

disease treated by percutaneous intervention in the SAFIRA registry; outcomes of patients with small ostium secundum atrial septal defect undergoing percutaneous closure; and an experience with the axillary artery puncture as an access route for percutaneous treatment of patients with aortic coarctation and weight < 25 kg.

Finally, the review article by Athayde et al., from Universidade Federal de Minas Gerais in Belo Horizonte, MG, Brazil, show a retrospective analysis of the use

of a drug-eluting balloon in coronary artery disease, indicating the currently available devices, discussing the most relevant studies in different clinical scenarios, and describing the current recommendations for their use.

Enjoy your reading!

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Editor