

Impact of the Brazilian Scientific Publications on the Recent Scientific Developments in Cardiology

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The Brazilian research, in the clinical and surgical areas as well as in the basic areas, has developed greatly in recent years. Cardiology, in turn, has effectively contributed for this development. Currently, the Brazilian Archives of Cardiology (Arquivos Brasileiros de Cardiologia), an ISI-indexed journal, joins other important national and also indexed journals, offering the national and international researchers good options for the publication of their studies.

This Editorial will discuss the impact of the recent Brazilian scientific publications from the clinical and surgical areas in Cardiology.

The atherosclerotic disease has been the target of constant research in the last years. More recently, the analysis of peripheral artery disease, both concerning its diagnosis as well as its prognostic impact, has been carried out, including epidemiological studies^{1,2}. The occurrence of an earlier onset of atherosclerotic disease, affecting even children and adolescents, as well as the influence of smoking and arterial hypertension in this population, which influences the lipoprotein profile, is a warning to the authorities seeking a more effective and earlier prevention^{3,4}. Another important population study, carried out in Rio de Janeiro, confirmed the importance of smoking as a public health problem, increasing the number of cases of disability, chronic obstructive pulmonary disease, cerebrovascular disease and cardiovascular disease⁵. Another aspect that has been broadly discussed was the cardiovascular risk in non-cardiac surgeries, as well as methods of intraoperative monitoring and the importance of the cardiologic assessment in the context of this interdisciplinary evaluation⁶⁻⁸.

The discussion of multiprofessional collaboration has also been represented in clinical studies. The correlation between periodontal disease and cardiovascular risk, as well as the possibility of safe dental treatment, using anesthetic agents with vasoconstrictors, even in patients with coronary artery disease and the presence of ventricular arrhythmia, were the subject of recent publications^{9,10}. The impact of physical activity in the context of cardiovascular event prevention, improvement of the

endothelial function and control of arterial pressure have been broadly discussed, including in specific subpopulations, such as adolescents, the elderly and the female sex¹¹⁻¹³.

In the field of heart failure and ventricular dysfunction, we have observed important original contributions. The discussion on the importance of physical activity in patients with FCII, with impact on the quality of life, functional classes and characteristic features of respiratory variables and heart rate, even in patients undergoing treatment with beta-blockers, have represented advances in this area¹⁴⁻¹⁷. The criteria for diagnostic confirmation of myocardial noncompaction, as well as therapeutic strategies in this newly discovered novel classification of cardiomyopathies have also aroused the interest of researchers¹⁸⁻²⁰. Other forms of clinical presentation and the etiology of cardiomyopathies have also been studied. As it remains quite prevalent, considering its high mortality rate at the more advanced phases, the Chagasic cardiomyopathy offers great opportunities for original researches, as its physiopathological mechanism is yet to be fully elucidated²¹. Similarly, the hypertrophic cardiomyopathy and myocardial damage due to amyloid deposits, as differential diagnoses of cardiac hypertrophies and heart failure with restrictive patterns have also been broadly studied in the last years²²⁻²⁵. A study that evaluated pregnant women with ventricular dysfunction during the perinatal period also brought important concepts and analyses of the maternal risk during this period, a question that has been scarcely studied in the international literature²⁶.

In the field of cardiovascular surgery, several advances have been presented regarding the treatment of valvulopathies, coronary failure, thoracic aorta disorders and the use of mechanical circulatory assistance devices in our country. These advances include the standardization of the use of video-assisted surgery in the treatment of heart valve disorders^{27,28}, as well as the consolidation of reconstruction techniques in the treatment of mitral valve disorders^{29,30} and the performance of Ross surgery with decellularized pulmonary grafts in aortic valve substitutions³¹.

In the treatment of ischemic cardiomyopathy, the evaluation of the safety of employing intramyocardial injections of hematopoietic stem cells as a therapy associated to coronary artery bypass graft (CABG) surgery was the object of two clinical protocols^{32,33} that defined the safety of its use. Other important studies were those on the best preservation of venous grafts^{34,35}, the use of arterial grafts^{36,37} and the comparison between the on- or off-pump CABG surgery³⁸.

The proposal of employing hybrid procedures in the treatment of acute aortic dissections³⁹ and the study of the use of evoked potentials in the monitoring of medullary distress during the surgical approach of the descending aorta⁴⁰ have opened up new perspectives in the treatment of thoracic aorta disorders.

Key Words

Cardiology / trends; scientific and technical publications.

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On the other hand, the Brazilian experience regarding the use of mechanical circulatory assistance devices includes only initial series with extracorporeal membrane oxygenation (ECMO)^{41,42} and paracorporeal artificial ventricles in the treatment of cardiogenic shock or as bridge to heart transplant⁴³.

The better control of the quality and outcomes of cardiac surgery has also been the subject of studies in the national literature⁴⁴, especially analyses of preoperative risk factors for the development of kidney failure in the postoperative period⁴⁵ and in the surgical approach of elderly patients⁴⁶.

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