BioMed Research International

Special Issue on

Novel Insights within the Myocardial Remodeling Mechanisms and Heart Disease

CALL FOR PAPERS

Cardiovascular diseases represent a major health problem and myocardial remodeling (MR) is a common response to cardiac injuries. The MR defines morphological changes in the left ventricle in response to chronic changes in loading settings, with two main patterns: concentric hypertrophy, when a pressure load leads to growth in myocyte thickness, and eccentric hypertrophy, when a volume load produces myocyte lengthening. The unfavorable MR evolution is a key issue, since it can reduce the cardiac systolic and diastolic performance. Moreover, MR is an independent risk factor for the development of heart failure (HF). In the HF, heart is unable to meet tissue demands, and chronic fatigue and dyspnea are regular symptoms. This is a complex pathophysiological course linked with the cardiovascular system, as well as other organs and skeletal muscle tissue. The mechanisms underlying the transition from MR to HF remain incompletely clear, but they may include abnormalities in contractile function, cardiomyocyte apoptosis, extracellular matrix, myocardial Ca^{2+} handling, and redox signaling, as well as neurohumoral balance. These processes should be considered as therapeutic targets.

Since current pharmacological and nonpharmacological therapies are unsuccessful to treat MR and HF, new interventional approaches have emerged recently as a key issue. Thus, we invite investigators to contribute original research articles as well as review articles addressing recent MR mechanisms and its transition to HF. A particular interest will be given to papers exploring or discussing significant advances of pharmacological, nonpharmacological, and cellular/genetic interventions.

Potential topics include, but are not limited to:

- Altered left ventricular morphofunctional parameter and molecular signaling in the pathogenesis of MR and HF
- Advances in the genetics and epigenetics to know key mechanisms of MR and HF
- Repercussions of peripheral factors for accentuation of MR and poor prognosis in HF
- Novel pharmacological therapeutic approaches in cardiovascular disease
- Planning exercise training to reduce cardiac dysfunction and MR: repercussion of aerobic, resistive, and combined programs
- Low laser therapy can have positive repercussions in the treatment of HF?
- in cardiovascular disease
- Stem cells and/or derivative therapies
- and
- Modern devices supporting the heart (e.g., cardiac contractility modulation, ventricular assist devices, and intracardiac atrioventricular nodal vagal stimulation)
- Surgical noninvasive advances

Authors can submit their manuscripts via the Manuscript Tracking System at http://mts.hindawi.com/submit/journals/bmri/rehabilitation/nimr/.

Lead Guest Editor
Andrey J. Serra, Nove de Julho University, São Paulo, Brazil
andreyserra@gmail.com

Guest Editors
Adriana C. Girardi, University of São Paulo, São Paulo, Brazil
adriana.girardi@incor.usp.br

Paulo J. F. Tucci, Federal University of São Paulo, São Paulo, Brazil
paulotucci@terra.com.br

Óscar Lorenzo, Fundación Jimenez Diaz, Madrid, Spain
olorenzo@fjd.es

Rosemeire M. K. Takeuchi, Miami University, Oxford, USA
rkanashiro@med.miami.edu

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