Oxidative Medicine and Cellular Longevity

Hindawi

Special Issue on

Oxidative Stress and Endothelial Dysfunction

CALL FOR PAPERS

Oxidative stress, a major cause of endothelial dysfunction and vascular inflammation, is implicated in the pathogenesis of several vascular disorders including ischemic vascular diseases and inflammatory disorders. Reactive oxygen species (ROS) which are the central player of oxidative stress regulate physiological processes such as cellular signal transduction pathways and immune responses. However, excessive production of ROS can mediate endothelial damage via apoptosis of endothelial cells, opening of interendothelial junctions, transendothelial migration of inflammatory cells, and activation of inflammatory transcription factors such as NF-B, STATs, NFAT, and AP-1, thereby leading to the production of inflammatory cytokines. Emerging evidences suggest that the major sources of ROS in endothelial vascular injury are NADPH oxidase, the mitochondrial electron transport chain, uncoupled nitric oxide synthetase, and xanthine oxidase.

We invite researchers to contribute original research articles as well as review papers that seek to explore the mechanisms of oxidative stress induced endothelial injury in the pathogenesis of a broad spectrum of human diseases including diabetes, ischemic vascular disorders, hypertensive disorders, ischemia-reperfusion injury, sepsis induced vascular injury, tumor metastasis, venous thrombosis, and stroke. Special consideration will be given to original manuscripts identifying how novel signaling pathways during endothelial dysfunction can be therapeutically targeted in disease conditions.

Potential topics include but are not limited to the following:

- Endothelial regeneration, apoptosis, and permeability associated with oxidant induced damage of endothelial junctional proteins and associated cytoskeleton
- The migration or recruitment of immune cells as a result of oxidant induced endothelial dysfunction in different vascular beds of the body
- Mechanisms focusing on regulation of bactericidal activity of phagocytes through oxidant generation and phagosomal acidification
- Studies investigating the recruitment of stem cell niche such as endothelial progenitor cells (EPCs) in endothelial repair in oxidants induced vascular diseases as described above.
- Altered vascular tone by oxidant generation through modulation of cytosolic calcium and cell proliferation

Authors can submit their manuscripts through the Manuscript Tracking System at https://mts.hindawi.com/submit/journals/omcl/osed/.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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