Oxidative Medicine and Cellular Longevity

Hindawi

Special Issue on
Oxidative Stress in Nephropathy

CALL FOR PAPERS

Oxidative stress results from an imbalance between reactive oxygen/nitrogen species (RONS) production and a biological system's ability to readily detoxify the reactive intermediates or to repair the resulting damage. Disturbances in the normal redox state damage all components of cells, including lipids, arachidonic acid derivatives, carbohydrates, proteins, amino acids, and nucleic acid. Nephropathy is renal diseases that can be caused by toxicity of chemotherapy agents, virus infection, administration of analgesics, xanthine oxidase deficiency, deposition of antibodies in the glomerulus, and long-term exposure to heavy metals. Majority of these risk factors exert their renal toxicity via oxidative stress. In chronic nephropathy conditions (CKD), oxidative stress acts synergistically with inflammation and is involved in the development of long term complications such as inflammation, atherosclerosis, diabetes mellitus, amyloidosis, and malignancy. There are studies showing that treatments with antioxidants reduce renal damage, which has not been achieved with other types of therapies, representing an alternative in the management of nephropathy.

The present special issue aims to provide a communication platform for a variety of research fields, ranging from molecular biology, pathology, and toxicity to pharmacology. High quality research articles, as well as reviews, that address recent development on the renal oxidative stress, which may cover clinical discoveries, pathological elucidations, *in vitro* and *in vivo* evaluation systems, and studies of renal toxins and antioxidants, will supply important reference to clinicians, lab researchers, and pharmaceutical developers.

Potential topics include but are not limited to the following:

- Discovery of oxidative stress biomarkers in renal diseases
- Molecular signalling pathways of upstream/downstream oxidative stress
- *In vitro* renal oxidative stress models for fast compounds screen
- Animal models of renal oxidative stress
- Pathological changes in oxidative stress induced nephropathy
- Renal toxicity of foods, drugs, and pollutants
- Research and development of antioxidants in the treatment of nephropathy

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

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