Oxidative Medicine and Cellular Longevity

Hindawi

Special Issue on

Oxidative Stress in the Newborn

CALL FOR PAPERS

Oxidative stress (OS) occurs when the production of prooxidant free radicals species exceeds the capacity of cells to neutralize or scavenge them. OS can be a risk factor for fetal programming, representing a key process linking adverse fetal growth, impaired fetal wellbeing, or preterm birth and later increased risks of diseases in adolescence and adulthood. Adverse outcome to the offspring can extend beyond the neonatal period and includes neurodevelopmental disorders (motor and cognitive problems, attention deficit hyperactivity, and psychotic disorders), asthma, insulin resistance, diabetes mellitus, hypertension, coronary heart disease, and stroke. Free radicals can alter gene expression or damage lipids, proteins, and DNA at a critical developmental point leading to a higher susceptibility to many disorders.

We invite investigators to contribute original research articles as well as review articles that will stimulate the continuing efforts to understand the pathology underlying OS damage to the newborn, the development of strategies to treat or prevent OS-mediated diseases, and the evaluation of outcomes in this high-risk population.

We are particularly interested in articles describing the new modalities for clinical and biochemical characterization of OS damage and measuring outcomes from treatment trials, advances in molecular diagnostics, new insights into OS-mediated tissue damage using animal models, and current concepts in the prevention and treatment of oxidation using antioxidants, stem cells, and other protective strategies.

Potential topics include but are not limited to the following:

- Recent developments in OS-mediated diseases in fetus and newborns
- Advances in identification of prenatal and neonatal characteristics of the infant/foetus at increased risk of OS-mediated damage
- Latest technologies for biochemical evaluation of OS in the fetus and newborn
- Mechanisms of OS-mediated perinatal tissue damage using model systems
- Recent advances in antioxidant drug delivery and follow-up studies to prevent neurodevelopmental impairment and to ameliorate outcome

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

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