



CALL FOR PAPERS

Human lifestyle in most modern and developing societies has dramatically changed over past decades. Physical inactivity along with unrestricted access to calorie-dense foods has established an “obesogenic” environment and contributed to a serious epidemic of obesity and Type 2 diabetes (T2D), associated with increased morbidity and mortality. A new concept was recently proposed suggesting a central role played by adipose tissue hypoxia in promoting chronic inflammation, adiponectin reduction, adipocyte dysfunction, and death in obese individuals (Ye, 2009). Furthermore, systemic nocturnal intermittent hypoxia was shown to be associated with increased risk of developing T2D in middle-aged men (Muraki et al., 2010). However, it remains elusive how systemic versus local tissue oxygen tension affects the key pathophysiological processes of obesity and T2D, such as metabolic imbalance, inflammation, dysglycemia, and insulin resistance.

Accordingly this special issue is designed to invite and showcase the cutting-edge original research articles and reviews focusing on the impact of continuous or intermittent systemic hypoxia (e.g., altitude sojourn/training, obstructive sleep apnea, and hypoxic conditioning), as well as localized tissue hypoxia (in adipose and other types of tissues), on the pathogenesis, progression, and possible novel treatments of obesity and T2D. New revelation of brown adipose tissue (BAT) activity in adult humans has stimulated vigorous investigations on how it can serve as a prevention and treatment target for obesity and insulin resistance. Thus, a particular emphasis is to analyze the role of BAT in whole-body energy homeostasis and substrate metabolism under normal and hypoxic conditions. Our primary goal is to provide a platform for insightful discussions and exchanges of divergent ideas concerning systemic and local hypoxia as trigger or treatment (in some cases) of adipose tissue dysfunction and other organ injuries in obesity and T2D.

Potential topics include, but are not limited to:

- ▶ Role of hypoxia signaling in pathogenesis and progression of obesity and T2D
- ▶ Crosstalks between hypoxia and inflammation at systemic and tissue levels in obesity and T2D
- ▶ Effects of systemic or local hypoxia on white and brown adipose tissue structure, function, removal, and regeneration
- ▶ Modulatory role of BAT in whole-body energy balance and glucose homeostasis under normoxia and hypoxia
- ▶ Effects of systemic or local hypoxia on pancreatic beta cell function and survival as well as kidney function in obesity and T2D
- ▶ Interactions between obstructive sleep apnea and obesity or insulin resistance
- ▶ Therapeutic potential of intermittent hypoxic conditioning/training for prevention and treatment of obesity and T2D
- ▶ Effects of altitude sojourn or training on obesity and T2D
- ▶ Organ/tissue ischemia-reperfusion injury in obese and T2D

Authors can submit their manuscripts via the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/jdr/rhod/>.

Lead Guest Editor

Lei Xi, Virginia Commonwealth University, Richmond, USA
lx@vcu.edu

Guest Editors

Chin-Moi Chow, University of Sydney, Sydney, Australia
chin-moi.chow@sydney.edu.au

Xingxing Kong, Harvard University, Boston, USA
xkong1@bidmc.harvard.edu

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