



## Oxidative Stress and Inflammation in Chronic Diseases

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### Message from the Guest Editor

In chronic diseases affecting the cardio-pulmonary system, kidneys, liver, or central nervous system, an altered redox state would turn the physiological state into a pathologic condition through the alteration of lipids, proteins, or DNA. In the liver, the increased peroxidation could reduce insulin sensitivity and change the expression/activity of key enzymes involved in lipid metabolism. In the central nervous system, the neurovascular unit would be the target of the altered redox state. As regards the kidneys, oxidative stress could also be involved in the onset of comorbidities arising during haemodialysis and transplantation. In any case, the interaction between the redox system and innate immune signaling could constitute a complex network of regulation of the inflammatory response. Note that, in all of the abovementioned conditions, “mitochondrial dysfunction” would act as triggering factor. For the above reasons, the use of novel noninvasive markers aimed at evaluating oxidative stress and inflammation could represent powerful tools for the management of patients.





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