

Oxidative stress: Normal pregnancy versus preeclampsia

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Abstract

The role of oxidative stress in the physiopathology of human pregnancy is of particular interest. Pregnancy is well-known to increase the oxidative stress, mainly produced by a normal systemic inflammatory response, which results in high amounts of circulating reactive oxygen species (ROS) and reactive nitrogen species (RNS). Both ROS and RNS play an important role as secondary messengers in many intracellular signalling cascades. However, they can also exert critical effects on pathological processes involving the pregnant woman. ROS, RNS and antioxidants establish a balance that determines the oxidation status of animals and humans. This review focuses on the mechanism of oxidative stress in pregnancy as well as its involvement and consequences on the human pregnancy-specific clinical syndrome preeclampsia.