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Maternal obesity and redox status: correlation between plasma leptin and oxidative erythrocytic biomarkers

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Obesity is considered a risk factor during pregnancy and influences the development of obesity and its complications in adulthood during pregnancy (maternal, fetal or placental). Besides eating disorders and obstetric complications, obese mothers have a high incidence of oxidative disorders. Oxidative stress, characterized by an increase in free radical activity and a reduction in antioxidant defenses, is a common feature between metabolic and physiological disorders of obesity and those of pregnancy. It becomes a very important risk factor to consider in obese pregnant women. In addition, obesity is associated with an inflammatory state characterized by hyperleptinemia which plays a major role in the pathophysiology of insulin resistance. Leptin inhibits insulin secretion in the β -cell; there is a feedback loop, called the adipo-insular axis, where insulin increases the secretion of leptin which, in response, inhibits insulin secretion. A possible leptino-resistance, in which the loop is disturbed, would be responsible for hyperleptinemia and hyperinsulinemia observed in diabetes. The aim of this study is to evaluate the correlation between maternal leptin and some markers of erythrocyte oxidative status (nitric oxide, superoxide anion, malondialdehyde, carbonylated proteins) during pre-gestational obesity. This work is part of a study on the assessment of redox status during maternal obesity and its alterations on foeto-placental unit.

Biography

Nassima Malti is a Researcher at Laboratory of Physiology and Biochemistry of Nutrition, Department of Biology, Faculty of Sciences, University of Tlemcen. She has completed her PhD in 2014.

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