

Beneficiary Effect of mint in GDM Placenta

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From National Conference on Natural Products as therapeutics, Medical Microbiology, Nanobiology and System biology: Current Scenario & Emerging Trends, 'NATCON-2014'.

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18-19 September 2014.

American J of Bio-pharm Biochem and Life Sci 2014 September, Vol. 4 (Suppl 1): P 44

ABSTRACT

Gestational diabetes mellitus (GDM) is a prevailing pathological condition during pregnancy, characterized by glucose intolerance. Both patients with GDM and their offspring have greater risk to develop type 2 diabetes in later life with high chances of prenatal morbidity and mortality. Oxidative stress plays an important role in the pathogenesis of GDM and often results in the placental damage. Treatment with synthetic drugs during pregnancy complication like GDM may cause exacerbate effect to both mother and fetus. Hence the use of herbal drug with effective antioxidant property is inevitable. A common herb mint is known for its excellent antioxidant activity and hydroxyl radical scavenging activity. Hence the present study aims to investigate the efficiency of mint in regulating oxidant, antioxidant status, placental damage in normal and GDM placental tissue homogenate. It is ascertained by determining stress markers such as lipid peroxides, nitrite with simultaneous analysis of anti-oxidants such as TAC and GRR. Increased biomarkers of stress with an impaired antioxidant defense have been identified in the GDM placenta before incubation with mint. However incubation with mint significantly decreased the oxidative stress markers and increased the antioxidants defense in GDM placenta. Results achieved from the present study suggest the protective effect of mint extracts against oxidative stress and mint can be recommended as an alternative herbal remedy for GDM in pregnancy to manage oxidative stress.