

tin, which is also associated with impaired cerebral vascularization in general and white matter organization, as well as neurometabolism in the hippocampus..

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0102

Type 1 diabetes and oxidative stress markers

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Abstract

Oxidative stress is associated with numerous chronic inflammatory diseases. In type 1 diabetes (T1D), oxidative stress is involved in various complications and might be among the probable causes. In this study, we assessed some markers of oxidative stress and their relationship with the course of T1D.

Materials and Methods: This study was carried out on 76 patients with T1D (men and women) and 10 healthy controls. The patients underwent biochemical (glycemia, HbA1c, total cholesterol, triglycerides, creatinine, urea and arterial pressure), and oxidative stress markers evaluation: superoxyde dismutase (SOD), catalase (CAT), xanthine oxidase (XO), malondialdehyde (MDA) and reduced glutathione (GSH).

Results: Results show a highly significant increase ($P \leq 0.001$) in blood sugar, HbA1c, and plasma creatinine and urea levels in diabetic patients compared to controls. Cholesterol levels show no significant difference, while triglyceride values are significantly elevated compared to healthy people. Levels of MDA, a lipid peroxidation product, are significantly elevated compared to control values. Regarding the antioxidant defense system, there was a significant increase ($p < 0.05$) in SOD and CAT activities and a reduction in the level of GSH. XO was particularly higher in men than in women.

Conclusion: The oxidant / antioxidant balance is altered during diabetes. The oxidative stress biomarkers such as MDA and XO in T1D may be a useful tool to monitor progressive complications. These results are preliminary and requires further investigations on a large cohort to assess the potential role of oxidative markers in T1D.

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0103

Nigella sativa for the management of hyperglycaemia and dyslipidemia

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Abstract

Aim: This study investigated the effect of neutral lipids of Nigella sativa seed on hyperglycemia and serum lipid status in Nicotinamide/Streptozotocin (N/STZ)-induced diabetic rats.

Materials and Methods: Extraction of Nigella sativa oil was carried out using methanol/chloroform extraction. Neutral lipids were obtained by fractionation on silica gel column. Both total oil and neutral lipid fractions were assessed by gas chromatography (GC) for their contents on fatty acids, phytosterols and phytostanols. Triglycerides contents were determined using high performance liquid chromatography coupled to an evaporative light scattering detector. After N/STZ induction of diabetes in Wistar rats, fractions were administered orally (100mg/kg/day) for 21 days, and blood glucose and lipids levels were assessed.

Results and Discussion: Neutral fraction is rich in various bioactive lipids. In diabetic rats group treated with either total oil extract or neutral fraction, blood glucose decreased significantly from 123 mg/dL to 83 mg/dL respectively after only 7 days. Afterwards, blood glucose stabilised to normal levels in both groups from the 15th to 21st day. Similarly, a significant decrease in triglyceride was observed within the first week of treatment with both fractions.

In contrast, treatment with both total oil and neutral lipids fractions lead to an increase in high density lipoprotein (HDL) cholesterol levels to 1.19 ± 0.08 g/L and 0.78 ± 0.08 g/L respectively at the 7th day with no change in body weight during the whole duration of the experiment.

Conclusion: Neutral lipids play an important role in stabilising blood lipids and reduce significantly hyperglycaemia in diabetic rats. These findings would suggest them for the treatment of diabetes and dyslipidemia..

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0104

The “Great Wave”: Childhood Obesity and Overweight

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