Antidiabetic and antioxidant impacts of desert date (Balanites aegyptiaca) and parsley (Petroselinum sativum) aqueous extracts: Lessons from experimental rats


Abstract:

Medicinal plants are effective in controlling plasma glucose level with minimal side effects and are commonly used in developing countries as an alternative therapy for the treatment of type 1 diabetes mellitus. The aim of this study is to evaluate the potential antidiabetic and antioxidant impacts of Balanites aegyptiaca and Petroselinum sativum extracts on streptozotocin-induced diabetic and normal rats. The influences of these extracts on body weight, plasma glucose, insulin, total antioxidant capacity (TAC), malondialdehyde (MDA) levels, and liver-pyruvate kinase (L-PK) levels were assessed. Furthermore, the weight and histomorphological changes of the pancreas were studied in the different experimental groups. The herbal preparations significantly reduced the mean plasma glucose and MDA levels and significantly increased the mean plasma insulin, L-PK, and TAC levels in the treated diabetic groups compared to the diabetic control group. An obvious increase in the weight of the pancreas and the size of the islets of Langerhans and improvement in the histoarchitecture were evident in the treated groups compared to untreated ones. In conclusion, the present study provides a scientific evidence for the traditional use of these extracts as antidiabetic and antioxidant agents in type 1 diabetes mellitus.

Published In:

Journal of Diabetes Research, 2016, 1-10