Efficacy and Safety of Olive in the Management of Hyperglycemia

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Postprandial hyperglycemia indicates the abnormality in glucose turnover leading to the onset of type 2 diabetes. Therefore, correction of postprandial hyperglycemia is crucial in the early stage of diabetes therapy. One of the most effective strategies to control postprandial hyperglycemia is medication combined with intake restriction and an exercise program. However, along with the prevalence of chronic diseases with multi-pathogenic factor, drugs with single chemical composition are usually not effective. In this view, phytotherapy has a promising future in the management of diabetes, considered to have less side effects as compared to synthetic drugs. The World Health Organization estimates that in developing countries about 80% of the population now still depend on herbal treatment. Olive (Oléa europea) (OE) has been used in traditional remedies in Europe and Mediterranean countries as a food and medicine for over 5,000 years especially for the prevention and treatment of chronic diseases such as hypertension, atherosclerosis, cancer and diabetes. In addition, olive is considered as the most important component of the Mediterranean diet with many health benefits. Several experimental studies have demonstrated the beneficial effect of OE on diabetes. This effect has been demonstrated in the animal models such as streptozotoxin-induced diabetic rats, alloxa-induced diabetic rats and obese diabetic rats fed a hypercaloric diet. In these models olive extracts have been shown to exhibit a significant reduction on both blood glucose and insulin levels. Few randomized clinical trials have demonstrated the beneficial effect of olive and one study has shown that the subjects treated with olive leaf extract exhibited significantly lower Glycated hemoglobin (HbA1c) and fasting plasma insulin levels. Another study performed in recent onset type 2 diabetic patients has revealed that OE leaves exhibited antidiabetic activity when it added as a mixture of extract of leaves of Juglans regia, Urtica dioica and Atriplex halimus. The underlying mechanism seems to be the improvement of glucose uptake and no side effect was reported while extracts from OE have been found to maintain the β-cell secretory capacity in overweight middle-aged men at risk of developing the metabolic syndrome. In conclusion, OE has been and continue to represent a natural source of phytocompounds eliciting a beneficial effect in human health especially in the management of hyperglycemia [1-15].

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References


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