**THE THERAPEUTIC EFFECTS OF EVODIAMINE IN FRUCTOSE-INDUCED METABOLIC SYNDROME IN RATS**

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**Objective:** Autophagy modulation is a new modality for the treatment of metabolic syndrome (MS) associated with diabetes type 2 in humans (Kim et al., 2017). Activation of capsaicin-sensitive nerves was also shown to reduce MS (Spiridonov et al., 2015), preventing development of diabetes of the 2nd type. Evodiamine (EV), a major alkaloid of Evodia rutaecarpa fruits, improved insulin resistance and had vanilloid receptor agonistic activity comparable to capsaicin, but its effect had not been investigated. The aim: to evaluate the effects of EV in the development of fructose-induced MS in rats.

**Method:**Normal 0 Male Wistar rats were given tap water to drink (Control) or 10 % fructose solution for 10 weeks (group F). EV (TCI, Chemical, China), 10 mg/kg, was administered once a day for 2 weeks, i.p., after 8 weeks fructose consumption. Systolic blood pressure (SBP) was measured by non-invasive method. The content glucose of plasma blood (fasting and 60 min after glucose loading, 2 mg/kg, i.p.) was determined by glucometer One Touch Horizon (USA) cutting the tail tip. The blood serum triglyceride (TG), thiobarbituric acid-reactive substances as marker of lipid peroxidation (POL) and metabolites of NO (NO2/NO3)were measured spectrophotometrically.

**Results:**Normal 0 Consumption of fructose resulted in MS development: a rise in SBP, intolerance glucose, the increase in serum level of TG and POL (P<0.05 *vs* control). EV administration to rats consuming fructose prevented the subsequent development of hypertension, and SBP reduced to the control. EV treatment improved glucose tolerance and decreased TG and POL level (P<0.05 *vs* rats with MS). The content of NO2/NO3in all groups studied did not differ from the control data.

**Conclusion:**Normal 0 EV showed a therapeutic effect decreasing the risk of MS. It was suggested that this effect was mediated probably by activation of capsaicin-sensitive nerves. Normal 0