



האוניברסיטה העברית בירושלים
הפקולטה לחקלאות, מזון וסביבה ע"ש רוברט ה. סמית
המכון לביוכימיה, מדעי המזון והתזונה

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הנושא:

The effect of a diet with carbohydrates consumed only at dinner on feeding control, obesity and the metabolic syndrome

המפגש יתקיים

ביום א', 30 נובמבר 2014, בשעה 9:00

מועדון סגל

(11/30/2014, 9:00, Faculty Club)

Abstract:

Sustained weight reduction is needed in order to end the "vicious cycle" of abdominal obesity and the metabolic syndrome - a known risk factor for diabetes and coronary heart disease. Recent evidence suggests that food timing across the day has crucial implications on eating control, obesity and the metabolic syndrome. In this study, we set out to test whether concentrated carbohydrates diet (CCD) in which carbohydrates are given only for an hour 3 hours before sleep, leads to enhanced eating control, better anthropometric outcomes and improved metabolic status by altering pathways in the hypothalamus and peripheral tissues. In humans, CCD improved diurnal secretion patterns of the "satiety hormone", leptin, the "hunger hormone", ghrelin and of adiponectin-"the link between abdominal obesity, insulin resistance and the metabolic syndrome". Lower hunger scores and better anthropometric measures, insulin resistance, lipid profile and inflammatory parameters were observed compared to controls. In an animal model, lower food consumption, body weight and epididymal fat mass and better, biochemical and inflammatory status detected in obese mice fed CCD compared to control. Changes in leptin, ghrelin and adiponectin were found as well as up-regulation of anorexogenic signals and down-regulation of orexogenic signals in the hypothalamus. In peripheral tissues, CCD promoted adiponectin signaling, repressed gluconeogenesis, enhanced lipid oxidation and lower inflammation, thus ameliorating major metabolic risk factors of obesity. These findings highlight the beneficial effects of CCD and provide a dietary alternative for obese people with the metabolic syndrome. We believe that this novel dietetic approach should be considered as "nutritional targeting" and as first line of treatment, prior to pharmaceutical or surgical interventions.