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SHORT PERIOD OF CALORIC RESTRICTION DECREASES GLUCOSE LEVELS AND DYSLIPIDEMIA CONTROLLING HYPERTENSION IN TYPE 2 DIABETIC MELLITUS PATIENTS.

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Calorie restriction has been shown to be a great assistance in combating metabolic diseases in different species, from yeast to mammals. However, data on caloric restriction in humans are not well established, requiring more complex and detailed studies in order to better understand the mechanism of action of this intervention. Using personalized nutritional approaches and tightly controlled, we submit type 2 diabetic subjects with metabolic decompensation to food restriction for 30 days in the Clinical Research Unit of the University Hospital of Ribeirão Preto. After treatment, we showed that the patients presented a reduction in fasting blood glucose levels in 61.93%, accompanied by a reduction of 17.97% in Hb1Ac. Total cholesterol levels decreased 42.87% along with triglyceride levels 52.42%. On average, participants in the treatment presented a reduction in body weight of 7.2%, which is more interesting than the reduction in weight loss related to the reduction of fat mass by 17% with maintenance of lean mass. Consistent with the metabolic results, we also observed that all individuals with arterial hypertension had a reduction in systolic and diastolic blood pressure 37.6% and 52.4%, respectively, reaching the ideal levels. Our results demonstrate that controlled and personalized dietary restriction is able to reduce glycemic and lipidemic levels in addition to reversing systemic arterial hypertension. Future experiments will be performed to elucidate the mechanisms of action of caloric restriction in patients with type 2 diabetes mellitus.

Biography

Rafael Ferraz is a biomedical scientist, completed his master's degree in 2015 at the Federal University of São Paulo with a supervised internship at the laboratories of the Joslin Diabetes Center – Harvard University. Currently he performs Ph.D at the University of São Paulo developing new treatment prococols about type 2 diabetes and obesity. He has experience in caloric restriction and molecular biology of the metabolism of glucose and energetic regulation in connection with metabolic diseases. He recently published the characterization of a new metabolic pathway related to the activation of caloric restriction.

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