

The effects of Ramadan fasting on serum concentrations of vaspin and omentin-1 in patients with nonalcoholic fatty liver disease

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Abstract

Introduction

Nonalcoholic fatty liver disease (NAFLD) is the most frequent liver disease. Vaspin may modulate the inflammatory process, **insulin resistance**, and NAFLD. Omentin-1 is independently associated with **hepatocyte** ballooning. There is evidence of improvement in the adipokines level and histological hepatic **steatosis** following **energy intake** restriction and weight loss. The aim of the study was to evaluate the effects of Ramadan fasting on various circulating adipokines in NAFLD patients.

Methods

This study was conducted on 83 NAFLD patients, 42 cases who declared that they would fast during the month of Ramadan fasted and 41 controls who decided not to fast during Ramadan. Anthropometric parameters including weight, body mass index (BMI), waist circumference (WC), hip circumference (HC), **waist-to-hip ratio** (WHR) and body fat percentage were measured before and after Ramadan. Dietary intake and physical activity levels were assessed by 24-h recall questionnaire and International physical activity questionnaire-short form (IPAQ-S), respectively. Serum adipokines including vaspin and omentin-1 were measured using commercial **ELISA** kit.

Results

Patients who fasted displayed a lower mean hip circumference and body mass index and considerable changes in serum vaspin and omentin-1 (p-value <0.05). The stepwise multivariate linear regression model revealed that the changes in weight, WHR, and dietary intakes were significant predictors of changes in serum adipokines.

Conclusion

There is a potential for fasting in improving several anthropometric indices in NAFLD patients. Additionally, fasting during Ramadan resulted in decreased levels of adipokines including vaspin and omentin-1. Studies with longer follow-up periods are required.

Keywords

Nonalcoholic fatty liver disease (NAFLD) Fasting Ramadan Vaspin Omentin-1 Non randomised clinical trial