

EFFECTS OF RESISTANT STARCH INGESTION ON POSTPRANDIAL LIPEMIA IN OVERWEIGHT AND OBESE SUBJECTS

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Abstract: Postprandial hyperlipidemia has been shown to increase endothelial dysfunction and cardiovascular risk. An increased intake of certain dietary fibers has shown benefits on postprandial triglyceride response. Resistant Starch (RS), a nonviscous, fermentable fiber has demonstrated beneficial effects on postprandial triacylglycerols by reducing fat absorption in rats. However, a controversy exists surrounding the role of RS on lipid response in humans. The aim of this study was to examine the effects of resistant starch on the postprandial triacylglycerols response, subjective measures of appetite and energy intake in healthy subjects. In a randomized, single-blind, crossover study, 14 overweight/obese young participants were included. In a crossover design subjects ate a high-fat breakfast (706 kcal, 59% from fat) and a treatment with native banana starch (NBS), Hi-Maize (HM) or digestible corn starch (DCS) on three separate occasions. All treatments were matched by digestible starch content and the RS content in NBS and HM was identical (20g). Effects on appetite were estimated, using Visual Analogue Scales (VAS) for subjective measures and an *ad libitum* test meal. Blood samples were obtained at regular intervals for 6h after breakfast and VAS questionnaire was also applied during this period. The postprandial glycemia, triacylglycerols and insulin responses were not different after the intake of NBS, Hi-Maize and DCS. Subjective appetite measures of satiety were significantly increased after Hi-Maize supplement, however, no effects on energy intake at the *ad libitum* test meal were observed after RS treatment. RS supplementation did not modify postprandial lipemia in a group of young subjects on a high-fat breakfast. Inconsistent results were observed between the subjective measures of appetite and food intake at the test meal. Further research to elucidate the mechanism behind these changes is required.

Keywords: Indigestible carbohydrates, resistant starch, postprandial lipemia, appetite, triacylglycerols.

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