

Effect of Jerusalem Artichoke Sandwich Cracker on Postprandial Blood Glucose
in Healthy Subjects

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Abstract

Introduction: Inulin and fructooligosaccharide (FOS) are polysaccharides which contain low energy with low glycemic index. They are recognized as healthy ingredients to reduce risks of diabetes mellitus and obesity. Jerusalem artichoke (JA) contains a lot of inulin and FOS. Thus, it may reduce postprandial blood glucose. The present study, therefore, explored effect of JA consumption in form of sandwich cracker on postprandial blood glucose in healthy subjects.

Methods: This study was randomized crossover design. Thirteen healthy subjects aged between 20 and 23 years old were enrolled. They randomly consumed either sandwich cracker consisted of 15 g of JA powder or placebo (sandwich cracker alone). Blood was collected before (T0) and subsequent to the consumption for 30 min (T30), 60 min (T60), 90 min (T90), and 120 min (T120).

Results: Postprandial blood glucose level of the JA group was significantly lower ($p < 0.05$) at T30 than control group. Area under the glucose curve of the JA group was also lower than control group. However, blood glucose level in subjects who consumed sandwich cracker with JA was gradually decreased when compared to those with placebo. Moreover, blood glucose level at T60 tended to lower in the consumption of sandwich cracker with JA ($p = 0.665$).

Conclusions: The present study shows that consumption of JA sandwich cracker contributed to attenuate postprandial hyperglycemia. The data suggest that consumption of diet containing JA may prevent diabetes mellitus and obesity.

Keywords: Polysaccharides, Jerusalem artichoke, Blood glucose, Diabetes mellitus