

難消化性デキストリン配合炭酸飲料摂取による 食後中性脂肪上昇抑制効果

—プラセボ対照二重盲検ランダム化クロスオーバー試験—

Effect of Carbonated Beverage Containing Resistant Maltodextrin on Postprandial Serum Triglyceride

—A Randomized, Double-blind, Placebo-controlled, Crossover Study—

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ABSTRACT

Objectives A randomized double-blind placebo-controlled crossover study was conducted on 90 subjects with high-normal fasting serum triglyceride levels and mild hypertriglyceridemia in order to evaluate the effect of carbonated beverages containing resistant maltodextrin on postprandial serum triglyceride elevation.

Methods The subjects were 90 healthy volunteers (fasting serum triglyceride : 120–200 mg/dL). The subjects were randomly divided into two groups and ingested a high fat meal (42.2 g fat) and either a test beverage containing 5 g (as dietary fiber) of resistant maltodextrin or a placebo beverage without resistant maltodextrin. Serum triglyceride elevation was determined before and 2, 3, 4, and 6 hours after ingestion of the high fat meal.

Results Compared to the placebo beverage, the test beverage significantly lowered the value of postprandial serum triglyceride at 3 and 4 hours after the high fat meal was ingested ($p < 0.05$). In addition, within a subgroup of subjects with fasting serum triglyceride levels 150–200 mg/dL, the value of postprandial serum triglyceride was significantly lowered by the test beverage 4 hours after the high fat meal was ingested when compared with the placebo beverage ($p < 0.05$).

Conclusions These results demonstrated that the carbonated beverage containing resistant maltodextrin taken with a meal has an inhibitory effect on the postprandial serum triglyceride elevation in subjects with high-normal fasting serum triglyceride levels and mild hypertriglyceridemia. (Jpn Pharmacol Ther 2011 ; 39 : 813–21)

KEY WORDS Resistant maltodextrin, Hyperlipidemia, Postprandial serum triglyceride elevation, Randomized controlled trial, Metabolic syndrome

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