Effects of a nutritional supplement containing Salacia oblonga extract and insulinogenic amino acids on postprandial glycemia, insulinemia, and breath hydrogen responses in healthy adults.

Collene AL, **Hertzler SR**, **Williams JA**, **Wolf BW**.

Department of Human Nutrition, College of Human Ecology, The Ohio State University, Columbus, Ohio, USA.

OBJECTIVE: This study evaluated the postprandial glycemic, insulinemic, and breath hydrogen responses to a liquid nutritional product containing Salacia oblonga extract, an herbal alpha-glucosidase inhibitor, and two insulinogenic amino acids. METHODS: In a randomized, double-masked, crossover design, 43 healthy subjects were fed the following meals on separate days after overnight fasting: control (C; 480 mL of a study beverage containing 82 g of carbohydrate, 20 g of protein, and 14 g of fat), control plus 3.5 g each of phenylalanine and leucine (AA), control plus 1000 mg of S. oblonga extract (S), and control plus S and AA (SAA). Postprandially, fingerstick capillary plasma glucose and venous serum insulin levels were measured for 180 min, and breath hydrogen excretion was measured for 480 min. RESULTS: The baseline-adjusted peak glucose response was not different across meals. However, changes in plasma glucose areas under the curve (0 to 120 min and 0 to 180 min, respectively) compared with C were -9% and -11% for AA ($P>0.05$ each), -27% and -24% for S ($P=0.035$ and 0.137), and -27% and -29% for SAA ($P<0.05$ each). Changes in insulin areas under the curve were +5% and +5% for AA ($P>0.05$ each), -35% and -36% for S ($P<0.001$ each), and -6% and -7% for SAA ($P>0.05$ each). Breath hydrogen excretion was 60% greater ($P<0.001$) in the S-containing meals than in the C- and AA-containing meals and was associated with mild flatulence. CONCLUSIONS: Salacia oblonga extract is a promising nutraceutical ingredient that decreased glycemia in this study. Supplementation with amino acids had no significant additional effect on glycemia.