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Mayo Clin Proc. 1986 Jun;61(6):442-7.

Effect of a purified amylase inhibitor on carbohydrate tolerance in normal subjects and patients with diabetes mellitus.

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Abstract

Slowing starch digestion by inhibiting amylase activity in the intestinal lumen should improve postprandial carbohydrate tolerance in patients with diabetes mellitus. Crude bean-derived amylase inhibitor ("starch blocker") that contains only minimal antiamylase activity, however, does not modify carbohydrate assimilation. To test the validity of the "starch blockade" concept, we assessed the effect of a partially purified bean-derived amylase inhibitor with increased antiamylase activity on carbohydrate tolerance in normal subjects and in patients with non-insulin-dependent diabetes mellitus. In comparison with a placebo, ingestion of this inhibitor with 50 g of starch substantially reduced postprandial increases in plasma concentrations of glucose and insulin in both normal subjects and those with diabetes. We conclude that a purified amylase inhibitor is effective and potentially beneficial in the treatment of diabetes mellitus.

PMID: 2423813 [PubMed - indexed for MEDLINE]

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