Dietary fiber supplementation: effect on exocrine pancreatic secretion in man.

M R Dukehart, S K Dutta, and J Vaeth

Abstract

The effect of a dietary fiber supplementation program (20 g/d) on exocrine pancreatic gland secretion was evaluated in six healthy male subjects who underwent quantitative assessment of pancreatic enzyme secretion both before and after 4 wk of dietary fiber supplementation. A duodenal perfusion technique was used to quantify the concentrations and output of pancreatic enzymes after ingestion of a standard test meal. Samples were aspirated from the ligament of Trietz and analyzed for pH, total protein, amylase, trypsin, and lipase activity. No significant changes were observed in duodenal flow rate pH, total protein, amylase, or trypsin concentrations and outputs after fiber supplementation. A marked increase in mean (+/- SEM) lipase concentration (U/mL) and output (kU/min) in both the resting and postprandial states was seen, reaching statistical significance (p less than 0.05) at 120 min postprandial. These data suggest that in man, a 4-wk dietary fiber supplementation program can modulate pancreatic lipase secretion.