Abstract

AIMS:
Various spices display insulin-potentiating activity in vitro, and in particular, cinnamon spice and its phenolic extracts have been shown to exhibit these capabilities. In vivo study shows that cinnamon may have beneficial effects on glucose homeostasis; therefore the aim of this study was to further investigate this phenomenon in humans.

METHODS:
Seven lean healthy male volunteers, aged 26 +/- 1 years, body mass index 24.5 +/- 0.3 kg/m² (mean +/- s.e.m.), underwent three oral glucose tolerance tests (OGTT) supplemented with either a 5 g placebo (OGTT(control)), 5 g of cinnamon (OGTT(cin)), or 5 g of cinnamon taken 12 h before (OGTT(cin12hpre)) in a randomized-crossover design.

RESULTS:
Cinnamon ingestion reduced total plasma glucose responses (AUC) to oral glucose ingestion [-13% and -10% for OGTT(cin) (p < 0.05) and OGTT(cin12hpre) (p < 0.05), respectively], as well as improving insulin sensitivity as assessed by insulin sensitivity index measures based on Matsuda's model in both OGTT(cin) (p < 0.05) and OGTT(cin12hpre) (p < 0.05) trials compared with OGTT(control).

CONCLUSIONS:
These data illustrate that cinnamon spice supplementation may be important to in vivo glycaemic control and insulin sensitivity in humans, and not only are its effects immediate, they also appear to be sustained for 12 h.