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Insulin sensitizing effect of cinnamon

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In our 14 month of clinical study, the commonly used Indian spice Cinnamon showed excellent results in pre-diabetic and newly diagnosed diabetic patients. In our clinical study, we have tested the blood sugar lowering and insulin-sensitizing effects of Cinnamon (*Cinnamomum cassia*). In our study, we have used 3 gm of cinnamon in capsules to people with diabetes for 90 days. In 45 days, improvements in both fasting blood sugar and in LDL (bad) cholesterol evidenced. Although some clinical trial results have been equivocal, several have shown benefits of cinnamon on glucose, lipid and insulin levels. Studies also showed, cinnamon can potentiate insulin action and improve insulin resistance and glucose metabolism, although the detailed biochemical mechanisms aren't completely clear. Bioactive compounds in cinnamon affect several steps in insulin signaling pathways. For example, research has shown that certain water-soluble polyphenol compounds (type A polyphenols) extracted from cinnamon may increase insulin sensitivity by inhibiting an enzyme (a tyrosine phosphatase) that inactivates insulin receptors. Other research has found that water-soluble cinnamon polyphenols increase insulin-dependent proteins (GLUT-4) required for glucose uptake by adipose and muscle cells. Cinnamon extracts also may decrease proteins involved in glucose production in the liver (gluconeogenesis). In addition, cinnamon compounds have antioxidant and anti-inflammatory actions, which may play a role in reducing insulin resistance and diabetes complications. The consumption of cinnamon is associated with a statistically significant decrease in levels of fasting plasma glucose, total cholesterol, LDL-C and triglyceride levels and an increase in HDL-C levels. However, no significant effect on hemoglobin A1c was found. The high degree of heterogeneity may limit the ability to apply these results to patient care, because the preferred dose and duration of therapy are unclear.

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