



Metabolic Syndrome and Diabetes

Preventing occurrence of metabolic syndrome and Type 2 diabetes in obese patients is a major health issue, for which reducing insulin resistance is a key strategy. This can be approached by lowering the high plasma free fatty acid (FFA) concentration defined as lipotoxicity and commonly seen in these patients. Interestingly, moderate alcohol consumption has been shown to diminish insulin resistance in both healthy and obese subjects. This beneficial effect seems to be partly due to plasma acetate derived from ethanol catabolism, decreasing plasma FFA. Acetate can also be generated from the fermentation of dietary fibers in the colon. The present clinical study confirmed that large amounts of acetate reach peripheral blood circulation after lactulose ingestion, a non-digestible acetogenic carbohydrate. Interestingly, this study showed with the use of stable isotope that increased plasma acetate concentration reduced lipolysis and FFA concentration in obese subjects. This result on lowering lipotoxicity may partly explain the beneficial effect of certain dietary fibers against insulin resistance.

For more information, please read the entire article:

Colonic fermentation from lactulose inhibits lipolysis in overweight subjects

V. Ferchaud-Roucher E. Pouteau H. Piloquet, Z. Zaïr, and M. Krempf. *Am. J Physiol Endocrinol Metab* 289: E 716-E720, 2005.