

Saudi Med J. 2000 Sep;21(9):831-7.

The effects of inorganic chromium and brewer's yeast supplementation on glucose tolerance, serum lipids and drug dosage in individuals with type 2 diabetes.

Bahijiri SM, Mira SA, Mufti AM, Ajabnoor MA.

Department of Clinical Biochemistry, King Abdulaziz University, Jeddah, Kingdom of Saudi Arabia.

Abstract

OBJECTIVE:

To study the effects of supplementation with organic and inorganic chromium on glucose tolerance, serum lipids, and drug dosage in type 2 diabetes patients, in the hope of finding a better and more economical method of control.

METHODS:

Seventy eight type 2 diabetes patients were divided randomly into two groups and given Brewer's yeast (23.3ug Cr/day), and CrCl₃ (200ug Cr/day) sequentially with placebo in between, in a double blind cross-over design of four stages, each lasting 8 weeks. At the beginning and end of each stage, subjects were weighed, their dietary data and drug dosage recorded, and blood and urine samples were collected for analysis of glucose (fasting and 2 hour post 75g glucose load) fructosamine, triglycerides, total and HDL-cholesterol, and serum and urinary chromium.

RESULTS:

Both supplements caused a significant decrease in the means of glucose (fasting and 2 hour post glucose load), fructosamine and triglycerides. The means of HDL-cholesterol, and serum and urinary chromium were all increased. The mean drug dosage decreased slightly (and significantly in case of Glibenclamide) after both supplements and some patients no longer required insulin. No change was noted in dietary intakes or Body Mass Index. A higher percentage of subjects responded positively to Brewer's yeast chromium, which was retained more by the body, with effects on fructosamine, triglycerides, and HDL-cholesterol maintained in some subjects when placebo followed it, and mean urinary chromium remaining significantly higher than zero time mean.

CONCLUSION:

Chromium supplementation gives better control of glucose and lipid variables while decreasing drug dosage in type 2 diabetes patients. A larger scale study is needed to help decide on the convenient chemical form, and dosage required to achieve optimal response