含鉻酵母、膳食纖維補充劑對於第 2 型糖尿病患營養及生理狀況的影響

Effect of chromium-yeast and fiber nutritional supplement in Type 2 Diabetics Mellitus patients

中文摘要

研究指出鉻酵母可改善其血糖及血脂異常的現象，而膳食纖維可延緩血糖並改善血脂肪。本研究目的針對第 2 型糖尿病患，利用含鉻酵母、膳食纖維補充劑的飲食，了解其生理狀況的變化。

本研究共分爲 2 個部份，測量實驗配方的昇醣指數(第一部份)和爲期 6 個月的飲食介入實驗 (第二部份) 。在昇醣指數實驗中，受試者攝取相當於 50 公克醣類的白土司、葡萄糖溶液、含鉻酵母、膳食纖維補充劑，並測量曲線下面積及計算其昇醣指數。第二部份共有受試者 30 名，以每日攝取 50 公克共 177 大卡的含鉻酵母、膳食纖維補充劑取代一般飲食熱量，其中含鉻 200 微克、膳食纖維 7.2 公克，爲期 6 個月，每天持續服用藥物且不改變藥量，並於第 0、1、3、6、7 個月收集血液樣本分析，項目包括空腹血糖、糖化血色素、三酸甘油酯、總膽固醇、低密度脂蛋白膽固醇、高密度脂蛋白膽固醇、及營養狀況分析。研究顯示：含鉻酵母、膳食纖維補充劑與白土司及葡萄糖溶液比較，昇醣指數分別爲 10.7、17.2，屬於低昇糖指數配方；而在 6 個月的飲食介入試驗中，介入期間空腹血糖、糖化血色素皆無顯著差異。但總膽固醇在介入後 1 至 7 個月有上升的現象。三酸甘油酯在介入後第 1、7 個月較介入前高。由以上結果得知含鉻酵母、膳食纖維補充劑對於屬於低昇糖指數補充品但是對於第 2 型糖尿病患的生理狀況無顯著的改變。

英文摘要

Chromium yeast supplement has been studied for its ability to improve carbohydrate and lipid metabolism .Many studies showed a beneficial effect of dietary fiber from delaying glycemic raise and improving blood lipids in type 2 diabetic mellitus patients. The aim of the study was to recognize the effect of chromium yeast and fiber supplement intake on glycemic responses and physical status in type 2 diabetic mellitus patients.

Study was inclued two phases, first phase to measure the glycemic index and second phase to conduct a 6-month dietary intervention. Subjects were given white toast, glucose solution, chromium yeast and fiber supplement, venous glucose were collected from subjects during the fasting and the time point of 0, 30, 60, 90, 120 and 150 minutes and calculate the incremental areas under curve. The second phase study was recruited 30 subjects with type 2 diabetes mellitus patients to follow a diet with 50 g, 177 Kcal, 200 μg chromium, dietary fiber 7.2g. chromium yeast and fiber supplement for 6-month, venous blood samples were collected from subjects during the fasting at month 0, 1, 3, 6, 7.The Glycemic index of chromium yeast and fiber supplement is 10.7 and 17.2 by compared to white toast and glucose solution.There was no significant different in fasting blood sugar and glycosylated hemoglobin. Total cholesterol was raised from month 1 to month 7. Triglyceride was significant different between month 1 and month 7. As the results the chromium yeast and fiber supplement is a low glycemic index and glycemic load supplement and no significant physical function change for type 2 diabetics mellitus .