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• 中文摘要

本研究的主要目的在探討富含膳食纖維的米麩飲食對 Streptozotocin(STZ)誘導的糖尿病老鼠其血糖、血脂及對腎病變之影響。將 40 隻雄性 Wistar 老鼠(平均 300 克)隨機分成兩組，一半利用 STZ 誘導成糖尿病老鼠。再將 STZ 誘導的糖尿病老鼠及無糖尿病老鼠隨機分成兩組，分別餵與 AIN 76 正常老鼠飼料配方飲食及米麩飲食(20g/100g Diet)。餵食四週後，不論是餵 AIN 76 飲食或米麩飲食之糖尿病鼠皆有高血糖，但米麩飲食組明顯降低其血中果糖胺值(和其基準值比)，且和 AIN 76 飲食組比有較低的葡萄糖耐量試驗面積。AIN 76 飲食之糖尿病鼠組血中總膽固醇濃度明顯升高(和其基準值比)，但米麩組並沒有變化。糖尿病鼠在 AIN 76 飲食組及米麩飲食組皆有明顯高肌酸酐值及蛋白尿。依數據顯示米麩飲食能有效降低血中果糖胺值及減緩葡萄糖耐量試驗之血糖反應面積。

• 英文摘要

This study was designed to investigate the effects of fiber-rich rice bran diet on blood glucose, lipid and diabetic nephropathy in streptozotocin (STZ)-induced diabetic rats. Forty male adult Wistar rats were randomly divided into four groups in a 2×2 factorial design and were fed AIN-76 diets with or with rice bran diet (20g/100g Diet), and normal rats or STZ-induced diabetic rats. After 4 wk, STZ-diabetic rats with and without rice bran were significantly ($p<0.05$) hyperglycemic. The blood fructosamine was ameliorated in rice bran diet-fed STZ-diabetic rats, compared with baseline. Fed rice bran diet was significantly lower blood glucose response than fed without rice bran diet in STZ-diabetic rats. Blood total cholesterol was higher than baseline in AIN-76 diet-fed STZ diabetic rats, but that didn't change in rice bran diet-fed STZ-diabetic rats. In STZ diabetic rats, blood creatinine and proteinuria were significant

higher than nondiabetic rats. There were vacuolization of cytoplasme in kidneys of STZ diabetic rats. These results suggest that, the effectiveness of rice bran diet in lowering blood fructosamine and improving glucose response.