Hubungan restriksi vitamin B12 dengan perubahan struktur dan fungsi ginjal ditinjau dari jalur enzim metionin sintase dan metilmalonil-koa mutase pada tikus sprague-dawley. = Vitamin B12 restriction effects on structural and functional changes of sprague-dawley rat s kidney via methionine synthase and methylmalonyl-coa mutase enzymes pathways

Patwa Amani, author

Abstrak

ABSTRAK
Defisiensi vitamin B12 merupakan masalah kesehatan di negara maju dan berkembang. Penelitian ini menganalisis hubungan restriksi vitamin B12 dengan perubahan struktur dan fungsi ginjal. Tikus Sprague-Dawley 18 ekor dibagi menjadi tiga kelompok: 1 kontrol yang diberi pakan standar hewan coba AIN-93M selama 12 minggu; 2 perlakuan-1 P-1 diberi pakan AIN-93M modifikasi tanpa vitamin B12 selama 4 minggu; dan 3 perlakuan-2 P-2 selama 12 minggu. Vitamin B12 plasma total turun dari 529.17 166.51 pg/ml menjadi 426.33 60.59 pg/ml pada P-1 dan 708.70 124.35 pg/ml menjadi 519.16 84.96 pg/ml pada P-2, pada kelompok kontrol meningkat dari 567.79 102.52 pg/ml menjadi 650.26 193.12 pg/ml. Homosistein plasma meningkat pada kelompok perlakuan setelah 4 minggu kontrol vs P-1 = 351.05 110.69 pmol/ml vs 597.09 308.02 pmol/ml dan 12 minggu kontrol vs P-2 = 414.473 224.13 pmol/ml vs 1055.12 651.68 pmol/ml, p
<hr />
ABSTRACT
Vitamin B12 deficiency is still a health problem in both developed and developing countries. This study was conducted to explore possible relationship between vitamin B12 dietary restriction with kidney rsquo;s histological and physiological changes. Eighteen male Sprague Dawley rats were divided into three groups: 1 control group were fed with standard AIN-93M for 12 weeks; 2 1st treatment group P-1 were fed with cobalamin restricted AIN-93M for 4 weeks; and 3 2nd treatment group P-2 were fed with cobalamin restricted AIN-93M for 12 weeks. Vitamin B12 level decreased from 529.17 166.51 pg/ml to 426.33 60.59 pg/ml in P-1 group and from 708.70 124.35 pg/ml to 519.16 84.96 pg/ml in P-2 group, while it increased from 567.79 102.52 pg/ml to 650.26 193.12 pg/ml in control group after 12 weeks. Plasma Hcy increased in treatment group after 4 weeks control vs P-1 = 351.05 110.69 pmol/ml vs 597.09 308.02 pmol/ml and 12 weeks control vs P-2 = 414.473 224.13 pmol/ml vs 1055.12 651.68 pmol/ml; p