Perubahan aktivitas spesifik enzim glutamat piruvat transaminase dan kadar glukosa jaringan hati tikus rattus norvegicus pasca penghentian pemakaian MSG diatas dosis rekomendasi = Changes in specific activity of glutamate pyrufate transaminase enzyme and glukose liver tissue rat rattus norvegicus post termination of use of MSG above dosage recommendations

M. Misbakhul Munir, author

Abstrak

Monosodium Glutamat (MSG) merupakan garam natrium dari glutamate yang merupakan asam amino nonessensial yang dapat bersifat eksitotoksik. Terdapat dugaan bahwa glutamat yang berlebihan berpotensi menyebabkan kerusakan dihati dengan mekanisme eksitotoksik karena reseptor glutamate juga ditemukan di hati. Penelitian ini bertujuan untuk mengetahui metabolisme hati yang berkaitan dengan Fungsi hati (enzim GPT) dan glukoneogenesis pada tikus jantan dewasa setelah pemberian MSG dan penghentiannya. Sebanyak 45 ekor tikus putih (Rattus norvegicus) jantan dibagi menjadi 3 kelompok : Kelompok kontrol(diberi akuades), kelompok pemberian MSG 4 gr/KgBB/hari dan kelompok pemberian MSG 6 gr/KgBB/hari. Perlakuan diberikan melalui sonde selama 30 hari. Setiap kelompok dibagi lagi menjadi 3 kelompok berdasarkan waktu pengambilan jaringan hati (30+1, 30+14 dan 30+28), jaringan hati diambil untuk pengiukuran kadar protein, glukosa dan aktivitas spesifik enzim GPT. Pemberian MSG 4 gr/KgBB/hari tidak menyebabkan perubahan kadar glukosa (P=0,132), tetapi terjadi peningkatan bermakna aktifitas spesifik enzim GPT (p=0,038) pada jaringan hati tikus. Pemberian MSG 6 gr/KgBB/hari menyebabkan penurunan bermakna kadar glukosa (p=0,065) paska penghentian 28 hari, tetapi terjadi penekanan tidak bermakna pada aktifitas spesifik enzim GPT (0, 651) pada jaringan hati.

.....

Monosodium Glutamate (MSG) is the sodium salt of glutamate which is an amino acid nonessensial. Wich tend to be exitotoxic. There are allegations that excessive glutamate could potentially caused damage to the liver, because glutamate receptors are also found in the liver. This study aim was to determine the liver metabolism related to the specific activity of the glutamate pyruvate transaminase and gluconeogenesis in adult male rats after administration of MSG and its termination. A total of 45 rats (Rattus norvegicus) males were divided into 3 groups: control group (distilled water), the group MSG 4 g / Kg BB / day and MSG 6 g / KgBB / day administration. The treatment is given by sonde for 30 days. Each group was subdivided into three groups based on the time period after MSG discontinued (30 + 1, 30 + 14 and 30 + 28), the liver tissue is taken for measuring: protein, glucose concentration, and GPT specific activity. Administration of MSG 4 g / kgBB / day did not lead to changes in glucose levels (P = 0.132), but there was a significant increase in GPT specific activity (p = 0.038) in the rat liver tissue. Administration of MSG 6 g / kg BB/ day caused a significant decrease in glucose levels (p = 0.065) after discontinuation of 28 days, but there was not significant different in the specific activity of the GPT enzyme (p=0, 651) in the liver tissue.