

Pengaruh pemberian monosodium glutamat pada induk tikus selama gestasi terhadap regenerasi sel saraf korteks motorik otak neonatus tikus = The effect of monosodium glutamate administration during pregnancy on brain neuroregeneration in rat neonates motor cortex

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Abstrak

[ABSTRAK

Monosodium glutamat MSG digunakan secara luas dan tanpa takaran yang terkontrol sebagai penyedap makanan. Konsumsi MSG selama kehamilan pada hewan coba menyebabkan berbagai gangguan pada janin, salah satunya adalah sel otak. Tujuan penelitian ini adalah mengetahui pengaruh MSG terhadap gambaran histologis otak bagian korteks serebri pusat motorik tikus yang induknya mengonsumsi MSG selama kehamilan. Penelitian ini menggunakan desain eksperimental dengan cara mengamati dan menghitung sel saraf normal pada area M1 korteks serebri neonatus tikus yang induknya diberikan MSG per oral selama gestasi. Sampel yang digunakan sebanyak 36 otak tikus yang dibagi menjadi empat kelompok: kontrol, MSG 1200 mg/kg BB, MSG 2400 mg/kg BB, dan MSG 4800 mg/kg BB. Hasil penelitian menunjukkan adanya peningkatan persentase sel saraf normal pada kelompok perlakuan dibandingkan kelompok kontrol. Walaupun peningkatan ini tidak signifikan secara statistik pada kelompok MSG 1200 mg/kg BB dan MSG 4800 mg/kg BB uji one way Anova, namun kelompok MSG 2400 mg/kg BB mengalami peningkatan signifikan p.

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ABSTRACT

Monosodium glutamate MSG is widely used without any regulation or controlled doses in Indonesia. MSG consumption during pregnancy on rat causes many defects on fetus, especially brain neurons. The purpose of this study was to determine the effect of MSG on the histology of motoric center on cerebral cortex of the rats. This study design was experimental by observing and counting the normal neurons on M1 area of rat neonates' cerebral cortex whose mother received MSG per oral during the gestation period. This study used 36 rat brains which were divided into four groups: control, MSG 1200 mg/kg BW, MSG 2400 mg/kg BW, and MSG 4800 mg/kg BW. The result showed an increased percentage of normal neurons on MSG group compared to control group. This increment is not significant statistically on group MSG 1200 mg/kg BW and 4800 mg/kg BW. Nevertheless, on group who was given MSG 2400 mg/kg BW, there was a significant increase of normal neuron percentage p. Monosodium glutamate MSG is widely used without any regulation or controlled doses in Indonesia. MSG consumption during pregnancy on rat causes many defects on fetus, especially brain neurons. The purpose of this study was to determine the effect of MSG on the histology of motoric center on cerebral cortex of the rats. This study design was experimental by observing and counting the normal neurons on M1 area of rat neonates' cerebral cortex whose mother received MSG per oral during the gestation period. This study used 36 rat brains which were divided into four groups: control, MSG 1200 mg/kg BW, MSG 2400 mg/kg BW, and MSG 4800 mg/kg BW. The result showed an increased percentage of normal neurons on MSG group compared to control group. This increment is not significant statistically on group MSG 1200 mg/kg BW and 4800 mg/kg BW. Nevertheless, on

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