

# Abstract

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## The effect of a single dose of morphine and ethanol on magnesium level in blood serum and tissues in mice.

Papierkowski A, Pasternak K.

Observation Clinic, Medical Academy of Lublin, Poland.

**OBJECTIVE AND METHODS:** The effect of a single dose of morphine (50 mg/kg) and ethanol (2 g/kg) on total magnesium content in blood serum, brain, heart, lung, kidney, liver, femoral muscle and spleen in mice was studied.

**RESULTS:** Significant decrease of magnesium serum concentration was observed after morphine and ethanol administration but not after both drugs given simultaneously. Morphine caused the evident decrease of magnesium content in brain, lung, kidney and muscle, while it was elevated in heart and spleen and unchanged in liver. Ethanol produced significant decrease of magnesium content in heart, lung and kidney and its increase in liver and spleen. Concomitant administration of both drugs was connected with the diminished amount of magnesium in heart, lung, kidney and muscle and led to the rising of magnesium content in spleen.

**CONCLUSION:** It is concluded that even a single dose of investigated drugs is sufficient to produce promptly some risk of alterations in magnesium homeostasis.

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