

ABSTRACT

EFFECT OF LACTULOSE ON EXPRESSION OF TRANSPORTER AQP3, AQP4 and PPAR- γ IN MORPHINE-INDUCED CONSTIPATION

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The aim of this study is to analyze expression of AQP3, AQP4 and PPAR- γ in colon of mice which constipation-induced by morphine for seven days. Morphine was injected twice at 7am and 5pm. On the third day to the seventh day was given lactulose twice a day, 30 minutes before morphine administration. Other parameters used in this study are fecal weight and fecal water content. The results of this study showed that there is no differences between the morphine and lactulose groups in fecal weight, whereas in the percent of fecal water content the lactulose group showed significant differences with the morphine group. Percent of fecal water content in the lactulose group is higher than the morphine group. The relative expression of AQP3 and AQP4 showed no significant ($p \geq 0,05$) difference between the lactulose group and the morphine group. In PPAR- γ expression there is significant differences ($p \leq 0,05$) between the lactulose and morphine groups, where the lactulose group had smaller expressions compared to the morphine group. Lactulose does not affect the expression of AQP3 and AQP4, but it does affect the expression of PPAR- γ .

Keywords: Constipation, Lactulose, AQP3, AQP4, PPAR γ .