

PubMed

Search

Display Settings:  Abstract

Full Text  
Online 

*J Pharm Pharmacol.* 2009 Apr;61(4):459-64.

## Montmorillonite adsorbs creatinine and accelerates creatinine excretion from the intestine.

Zhang YT, Wang XF, Long LH, Liu T, Cao YX.

Department of Pharmacology, Xi'an Jiaotong University College of Medicine, Xi'an, Shaanxi, PR China.

### Abstract

**OBJECTIVES:** This study aims to evaluate the sorption by montmorillonite of creatinine and the accelerating effect of montmorillonite on creatinine excretion from the intestine.

**METHODS:** The sorption of montmorillonite was observed in vitro. Also, rat intestinal tract and blood vessels were perfused circularly with perfusate with or without creatinine, respectively, to study the promotion of creatinine diffusion from the blood vessel to the intestine and the inhibition of creatinine absorption in the intestinal tract. The effect of decreasing the serum concentration of creatinine was studied in an acute hypercreatininaemia mouse model. The concentration of creatinine was determined by the basic picric acid method.

**KEY FINDINGS:** Montmorillonite adsorbed creatinine markedly in the simulated intestinal solution in a concentration-dependent manner. The sorption-time curve of montmorillonite with creatinine showed that the sorption was fast. The adsorption rate reached a maximum in 10 min. The pH of the solution influenced the sorption, the rate of which was higher at a low pH than at a high pH. Creatinine could diffuse from the blood vessel to the intestine and was reabsorbed in the intestine. Montmorillonite promoted the diffusion and inhibited the absorption. Montmorillonite decreased the serum creatinine level of hypercreatininaemia mice prepared by injecting creatinine intraperitoneally.

**CONCLUSIONS:** Montmorillonite adsorbs creatinine and accelerates its excretion from the intestine.

PMID: 19298692 [PubMed - indexed for MEDLINE]

**Publication Types, MeSH Terms, Substances**

**LinkOut - more resources**