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Montmorillonite ameliorates hyperthyroidism of rats and mice attributed to its adsorptive effect.

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Abstract

The present study aims to evaluate the adsorbing effect of montmorillonite on thyroid hormone in the entero-hepatic circulation. The concentration of thyroid hormone in the serum of hyperthyroidism model rats and in solution was measured by radioimmunoassay and ultraviolet spectrometry, respectively. The body weight, temperature, and consumption of food and water were observed in hyperthyroidism model rats. Furthermore, hypoxia tolerance, sodium-pentobarbital -induced sleep time, spontaneous activities were measured on hyperthyroidism model mice after being treated with montmorillonite. Results showed that montmorillonite adsorbed thyroxin (T(4)) and triiodothyronine (T(3)) in vitro. Montmorillonite at dosage of 1.0 g/kg and 0.3 g/kg decreased thyroid hormone levels on hyperthyroidism model rats; Montmorillonite (2.0 g/kg and 0.6 g/kg) prolonged the sleep time, improved the hypoxia tolerant capacity and reduced the spontaneous activities of the hyperthyroidism model mice. These results suggest montmorillonite has anti-hyperthyroidism effect attributed to its adsorptive effect.

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MeSH Terms, Substances

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