

Abstract

Phenytoin is well-known antiepileptic drug with high anticonvulsant effect but also with proven side effects on motor activities associated with its long-term use. This thesis summarizes side effects of phenytoin on motor skills and coordination of rats after acute phenytoin treatment. Theoretical part includes proven effects of phenytoin on human and animal model. Knowledge about motor skills development of rats and comparison with human motor skills development is also included in the thesis. Apart from locomotion development, swimming development is also described. We compared three groups of rats in the experiment. Each group consisted of ten rats. We compared group with dosage 60 mg/kg, 30 mg/kg, control group and vehicle group. Each group was tested before application for control.

We tested animals on postnatal day 12, 18 and 25. Effects of phenytoin were evaluated by motor skills testing and swimming analyses. The results of this thesis have proved impaired motor skills and coordination after phenytoin treatment of 12 and 25 days old rats.