Abstract

The steroid substances with effect on nervous tissue are plenteously studied in last years. Their biggest benefits are especially anticonvulsant and anxiolytic effects. This thesis inspects the influence of newly discovered neruactive steroid pregnanolone pyroglutamate synthesized in The Institute of Organic Chemistry and Biochemistry of the Czech Academy of Science (IOCB CAS), which offer potential opportunity of a new therapy of epilepsy from actual pharmacokinetic results. Our goal was to detect, if this substance has any negative effects on locomotor skills of young laboratory rats. In theoretical part of the thesis the development of laboratory rat is briefly descibed, especially its motor skills and sensory functions in comparison with human. The process of the experiments and choice of especially motor skill tests are described in Metogology part. The results of experiment and its comparation with the effect of other neuromediators are introduced and discussed in the practical part of this thesis. There were no serious effects of pregnanolonepyroglutamate applied repeatedly in perinatal period on motor performance. Acute administration of the highest dose of PPG to 12-day-old rat pups resulted in prolongation of time in surface righting and negative geotxis tests. This data are positive for future introduction of neuroactive steroids into pediatric practice.