**EIXO TEMÁTICO: 3 - Biotecnologia, Inivação e Saúde**

**EFFECTS OF DOPAMINE DEPLETION IN WISTAR RATS WITH EPILEPSY**

SILVA, J. C. da1,2, MARTINS, B. M.2, MARTINS, B. M.2, SANTOS, L.2, MELO, M. R.3 e TRINDADE-FILHO, E. M. 1,2,3

1 Centro Universitário Cesmac, Curso de Medicina

2 Universidade Estadual de Ciências da Saúde de Alagoas, Curso de Medicina 3 Centro Universitário Cesmac, Programa de Mestrado profissional em Pesquisa de Saúde

E-mail do apresentador: belaamm97@gmail.com

Introduction: The use of dopaminergic ligands specific for different subclasses of dopamine (DA) receptors allowed to demonstrate that DA has an anti-epileptic action in a wide variety of animal models. Dopamine has been implicated in the modulation of seizure threshold in animal models of epilepsy. Objective: Describe the effects of dopamine depletion in rats submitted to the pilocarpine model of epilepsy. Methodology: The experimental protocol was approved by the Ethical Committee of UNIFESP (CEP 9139/97). Adult male Wistar rats were housed on a standard light/dark cycle of 12 h (night at 7:00 P.M.). Room temperature and humidity were controlled between 20 and 24 oC and 45-55%, respectively. Experiment 1: Rats were stereotaxically injected into pars compact of substantia nigra with 1mg.ml-1 of 6-OHDA (6-hydroxydopamine, 6-OHDA group, n = 24) or control solution (control group, n = 24). In both cases the injections were performed for 2 min at a speed of 0.1 l/min between 8 at 10 h am. One week after surgery, all rats received a systemic injection of pilocarpine (320mgkg-1, i.p.). Thirty minutes before pilocarpine administration scopolamine methylnitrate (1mgkg-1, s.c.) was injected to limit peripheral cholinergic effects. Following pilocarpine treatment the rats were continuously observed for the next 72 h to analyze the main characteristics of the acute period of this epilepsy model. Experiment 2:Accordingly, 27 rats received pilocarpine (320 mgkg-1, i.p., plus scopolamine methylnitrate as described above and were video-monitored 24 h/day. After the appearance of the first spontaneous seizure (chronic period) (mean of 15 days), 16 were stereotaxically injected with 6-OHDA into the substantia nigra. Results: 6-OHDA injection, significantly decreased dopamine levels in the hippocampus 7 days after. A reduction of 58% was observed when compared to the control group. On the other hand, the hippocampal levels of noradrenaline and serotonin remained unchanged. In the experiment 1: After pilocarpine injection animals presented limbic motor seizures progressing to status epilepticus. The animals then remained in status epilepticus for approximately 11 hours in the 6-OHDA and control groups) when they then returned gradually to exhibit normal behavior. Experiment 2:Occurred a high incidence of deaths was observed after the use of OHDA (8 animals) before the end of the experiment. These deaths occurred for no apparent reason since the analysis of video recordings did not show that these animals died after a seizure.Conclusions: Our data showed that dopamine may play an important role on seizure severity which seems to be exerted by its inhibitory.

PALAVRAS-CHAVE:Pilocarpine, epilepsy, hipocampo.