

OXIDATIVE STRESS PARAMETERS IN DIABETIC RATS SUBMITTED TO FORCED SWIMMING TEST: THE INSULIN AND CLONAZEPAM EFFECT

CARLOS ALBERTO YASIN WAYHS; GIOVANNA NEGRETTO; VANUSA MANFREDINI; ANGELA SITTA; MARION DEON; GRAZIELA S. RIBAS; CAMILA S. VANZIN; GIOVANA B. BIANCINI; MARCELO K. FERRI; MAURÍCIO S. NIN; HELENA M. T. BARROS; CARMEN REGLA VARGAS

**INTRODUCTION:** Diabetes Mellitus (DM) is considered one of the major metabolic diseases of 21st century. DM is a hyperglycemic chronic state that may modify central nervous system functions and is associated with moderate cognitive deficits and neurophysiological and structural changes in the brain, a condition that may be referred to as diabetic encephalopathy. Psychiatric manifestations seem to accompany this encephalopathy, since the prevalence of depression in diabetic patients is much higher than in the general population, and clonazepam is being used to treat this complication. There is growing evidences that excess generation of highly reactive free radicals causes oxidative stress, which further exacerbates the development and progression of diabetes and its complications. **OBJECTIVE:** The objective of this study was to evaluate the effect of insulin and/or clonazepam on oxidative stress parameters in blood of diabetic male Wistar rats induced with streptozotocin and submitted to forced swimming test (FST). **MATERIALS AND METHODS:** The protein oxidative damage was measured by carbonyl formation, the lipid peroxidation was determined by reactive species of thiobarbituric acid and also measured by malondialdehyde (MDA) levels, and the DNA damage was determined by comet assay. **RESULTS:** The protein oxidative damage, the lipid peroxidation and the DNA damage were significantly increased in blood from diabetic rats submitted to FST when compared to controls, which was reverted by insulin plus clonazepam acute treatment. Furthermore, the immobility in the FST was partially reverted by insulin plus clonazepam acute treatment. **CONCLUSION:** In conclusion, we can suppose that insulin plus clonazepam treatment may protect against oxidative stress damage in diabetic rats submitted to FST. **Acknowledgements:** CNPq, CAPES, FIPE/HCPA, PROPESQ/UFRGS.