OZ-P-074: FUNCTIONAL STATE OF RAT BRAIN UNDER THE EFFECT OF OZONATED PHYSIOLOGICAL SOLUTION.

I.Mukhina; R.Lapshin; A.Mironov and E.Dudina.
Medical Academy, Nizhni Novgorod, Russia.

Single intraperitoneal administration of 1 mL of ozonated physiological solution (ozone concentration = 135 mcg/L) to Wistar rats doesn't cause any visible changes in the neurological status and behaviour of animals. At the same time an intraperitoneal administration of ozonated physiological solution, at the same concentration, to anesthetised animals, induces more deep narcosis for 60 min, with development of typical picture of a deep narcotic sleep by EcoG data. In contrast, with the use of non-ozonated physiological solution the prevalence of slow waves at the q - and d -ranges as well as the decrease of waves at the a -and b -range is observed in EcoG spectrum. At the same time the paining reflex is decreased but corneal reflex and independent respiration is saved. Single intraperitoneal admistration of ozonated physiological solution to rats doesn't cause significant changes in brain adenyl and guanyl nucleotides spectrum, increases the piruvate level as well as a small decrease of piruvate dehydrogenase activity and good function of brain cells aerobic respiration is noted. The administration of ozonated solution at the background of nembutal anesthesia potentiates the narcosis effect, however it doesn't cause hypoxic changes of brain metabolism while more deep anesthesia becomes. Single administration of ozonated physiological solution activates lipid peroxidation processes on 18 %, in brain tissue, 60 min after administration of solution and decrease of superoxide dismutase activity at 64 %.