Journal of Experimental and Clinical Medicine

Poster

doi: 10.5835/jecm.omu.31.02.016

Effects of the static magnetic field on brain, lungs, liver, pancreas and blood electrolytes of rats

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ARTICLE INFO

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Keywords:
Blood electrolytes
Brain
Liver
Lungs
Pancreas
Static magnetic field

ABSTRACT

The effects of static magnetic field of 1.5 Tesla during exposure time of 0-3 hours have been characterized among four groups (E0, E1, E2 and E3) of Rat's tissues (brain, lungs, liver and pancreas) and blood electrolytes (Na^+, K^+ and Ca^{+2}). Before the exposure, the average levels for electrolytes were 116.81±3.67, 5.16±0.28 mmol/l and 10.23±0.07 mg/dl respectively. Then a significant (R2=98, P=0.05) reduction in Na^+, Ca^{+2} have been noticed following the exposure time in a linear correlation observed and the reduction was 31.55% and 15.59% respectively, while the K^+ increased following the exposure time in a linear form and the reduction percent at three hours of exposure was 47.76%. While the observed effects in tissues were edema (vacuolations) and degeneration in brain tissue. Alveolar congestion, emphysema and hemorrhage have seen in the lungs tissue. Atrophied hepatocytes and necrosis seen in the pancreas.

J. Exp. Clin. Med., 2014; 31:124