

The influence of acute hypothermic and anakinetic stress on the motility and emotivity in carnitine supplemented rats

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Abstract

Background. Hypothermia and immobilization are stressful agents used in order to induce experimental stress.

Aims. The study evaluated the effects of acute hypothermic (5°C) and restraint stress on spontaneous motility and emotivity in carnitine supplemented rats.

Methods. The study was performed on four groups of male rats, adult (n = 10 animals / group) Wistar breed, for 3 days): group I- exposed to hypothermic stress (5°C), group II-exposed to anakinetic stress, group III- exposed to combined stress (hypothermic - 5°C - and anakinetic stress), group IV- supplemented with carnitine and exposed to combined stress. Spontaneous motility (movements and rearings) and emotivity (micturitions and defecations) were evaluated by Open Field Test.

Results. The combined stress induced significant decreases of the spontaneous motility and significant increases of the emotivity as compared to the control group; carnitine supplementation in acute combined stress, induced insignificant spontaneous motility increases when compared to the control animals.

Conclusions. Acute combined stress induces hypomotility and hiperemotivity. Carnitine does not improve emotivity, but induces insignificant increases of motility.

Keywords: acute combined stress, hypothermia, immobilization, carnitine, spontaneous motility, emotivity, Open Field Test.