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

Alexandra-Cristina Berghian[1], Cătălin Raus[1], Simona Tache[1], Remus Moldovan[1], Iuliana Boroş-Balint[2]

[1]*Iuliu Haţieganu University of Medicine and Pharmacy, Cluj-Napoca*

[2]*Babeş-Bolyai University, Cluj-Napoca, Faculty of Physical Education and Sports*

Abstract

Background. Immobilization is a stressful agent used in order to induce experimental laboratory stress. The controversies regarding the effects of carnitine administration on motility and emotivity in sportsmen, determined us to perform experimental studies.

Aims. The study evaluated the effects of restraint stress on spontaneous motility and emotivity in carnitine supplemented rats.

Methods. The study was made on four groups of male rats, adult (n=10 animals/group) Wistar breed, kept for 3 days in standard laboratory temperature (18-20°C): Group I – control, group II – exposed to anakinetic stress, group III – supplemented with carnitine, group IV – supplemented with carnitine and exposed to anakinetic stress. Spontaneous motility and emotivity was evaluated by Open Field Test.

Results. The restraint stress determined significant decreases of the spontaneous motility (movement and rearings) and significant increases of the emotivity (defecations and micturitions). Carnitine supplementation in acute restraint stress exposed animals induces significant spontaneous motility decrease and significant emotivity increase as compared to the control group.

Conclusions. Acute anakinetic stress with and without carnitine supplementation induces hypomotility and hiperemotivity.

Keywords: anakinetic stress, carnitine, motility, emotivity.