

8-weeks of aerobic training program decreases Malondialdehyde concentration in stressed rats #14

Rosety I, Fornieles-Gonzalez G, Rosety-Rodriguez M, Diaz A, Ordoñez J F

Human Anatomy Department. Edificio Policlinico. c/ Dr. Maranon N° 3. 11003 Cadiz. Spain.

E-mail: franciscojavier.ordonez@uca.es

In recent years it has been shown that psychological stress induced by immobilization changes the balance between pro-oxidant and antioxidant factors inducing oxidative damage. Fortunately several studies have reported that regular exercise may reduce oxidative damage. Consequently, the present work was designed to assess the influence of an 8-week moderate intensity swimming training program in psychological stressed rats. To get this goal, sixty 6-8-weeks-old male albino Wistar rats weighing 145-155 g were used in this experimental study. They were divided into three groups: control (lot A; n=20), stressed (lot B; n=20) and stressed & exercised (lot C; n=20). Rats were stressed by placing animals in a 25x7 cm plastic bottle 1 h/day, 5 day/week for 8 weeks. The policy statement of the American College of Sports Medicine on Research with Experimental Animals was followed. Malondialdehyde (MDA) content values in liver homogenates were significantly decreased in stressed & exercised animals (29.4 ± 3.6 vs 21.8 ± 2.7 ; $p < 0.001$) when compared with stressed rats. It can be concluded that an 8-week moderate intensity training program reduced lipoperoxidation induced by psychological stress.

Key Words: aerobic training, Malondialdehyde, rats