TRYPTOPHAN AND SEROTONIN LEVELS UNDER HIGH-CALORIE DIET CONSUMPTION

A. Vasylaki, A. Yurchenko
Taras Shevchenko National University of Kyiv, Educational and Scientific Centre “Institute of Biology and Medicine”, Ukraine

According to actual information, serotonergic system malfunctions cause different pathologies including maniac-depressive psychosis, schizophrenia, and depression. As a result of these pathologies, patients become obese because of changes in their nutrition activity[1]. Obesity is one of the most serious public health problems of the 21st century. It is a leading preventable cause of death worldwide, with increasing rates in adults and children. In 2015, 600 million adults and 100 million children were obese [2]. The aim was to study tryptophan and serotonin levels under high-calorie diet consumption.

Materials and Methods. The study included white nonlinear male rats with initial weighing of 135-160 g. During first seven days, all rats received standard food “Purina rodent chow” and water ad libitum. At the 8th day the population was divided into 2 groups. Animals of the first group (“Control”) were fed with a standard food and water ad libitum during the experiment. Animals of the second group (“HCD”) were on a high-calorie diet which consisted of a standard meal (60%), pork fat (10%), eggs (10%), sugar (9%), peanuts (5%), dry milk (5%), and sunflower oil (1%) [3] and water ad libitum. Statistical analysis was performed using statistical analysis applications of Microsoft® Excel. To assess inter-group differences the parametric Student test was used. The difference between the parameters was considered statistically significant at p<0.05.

Results. After 10 weeks of experiment it was found that the high caloric diet caused tryptophan level increase in
1,2 times in rat blood. Also the serotonin content increased in 2,4 times in “HCD” group compared with control group of animals.

**Conclusion.** It was determined that prolonged consumption high caloric diet cause imbalance in serotonin synthesis in rats.

**References**


**Key words:** tryptophan level, serotonin level, obesity.

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