

7TH INTERNATIONAL VETERINARY CONGRESS

September 04-05, 2017 | Paris, France

The investigation of the effects of cholesterol and *Lactobacillus acidophilus* on some biochemical parameters in rats*

Gulay Ciftci, Umit Ozcan, Burcu Onuk, Murat Guzel, Metin Cenesiz and Alper Ciftci
Ondokuz Mayıs University, Turkey

Statement of the Problem: The investigation of the effects of the administration of *Lactobacillus acidophilus* to rats fed with 2% cholesterol on the changes in total protein (TP), albumin (Alb), total cholesterol (TC), triglyceride (TG), low density lipoprotein (LDL), oxidized low-density lipoprotein (Ox-LDL) and high-density lipoprotein (HDL) was aimed.

Methodology & Theoretical Orientation: The animal material comprised of 30 adult-male-Sprague-Dawley-rats. Rats were divided into three groups. Control group (C) was fed with standard rat food for 8 weeks. Hypercholesterolemic group (HC) was fed with a ration comprising of the food with 2% cholesterol for 8 weeks. Hypercholesterolemic and probiotic-administrated group (HCL) was fed with a ration comprising of food with 2% cholesterol for 8 weeks and fed orally with 2×10^8 cfu/ml/day *L.acidophilus* probiotic for the last 4 weeks of the trial. At the end of 8 weeks, the serum levels of TP, Alb, TC, TG, LDL and HDL were detected by auto-analyzer. The level of Ox-LDL was measured by ELISA in brain supernatants.

Findings: The slightly increase of TP level ($p > 0.05$) in HC group was determined compared to control group. In HCL group, this level slightly decreased ($p > 0.05$). The changes in albumin level among the groups were not significant ($p > 0.05$). It was detected that TC level in HC group increased ($p < 0.05$); but in HCL group, it decreased and approached to the level of control group ($p < 0.05$). The TG level in HC group increased compared to control group ($p < 0.05$); but in HCL group, it decreased compared to HC group ($p < 0.05$). It was determined that the level of HDL in HC group decreased compared to control group ($p < 0.05$), but increased in HCL group ($p > 0.05$). The changes in Ox-LDL level in HC group was determined as increased compared to control group ($p < 0.05$); but in HCL group, it decreased compared to HC group ($p < 0.05$).

Conclusion & Significance: It was thought that the administration of *Lactobacillus acidophilus* as a probiotic might be useful in reducing the cholesterol level.

* This study was supported by the Scientific and Technological Research Council of Turkey (TUBITAK) (Project No: 115O908)

Biography

Gulay Ciftci is an expert in Molecular Biochemistry and Proteomics. She has completed her PhD at Ankara University, and now she works as Associate Professor at Ondokuz Mayıs University, Samsun, Turkey. She focuses on working hormones, proteins and genes.

gciftci@omu.edu.tr

Notes: