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Results: An increase in the proliferative activity of cells at the stage G2/M by ~1.6 times was shown when using Xymedon and a conjugate at a concentration of 250 $\mu\text{M/L}$ against the background of exposure to *d*-GLA 55 mM/L in comparison with the control group. A decrease in cells in a state of apoptosis for the conjugate in concentration of 500, 250, 125 $\mu\text{M/L}$ by ~2.4, ~3.7 and ~4 times, respectively, was demonstrated. The same for Xymedon, by ~4.2, ~3.5, ~2 times, respectively.

Conclusions: The data obtained indicate the presence of an antiapoptotic effect in Xymedon and its conjugate with *L*-ascorbic acid. There is also a dependence: with a decrease in the concentration, the positive effect of conjugate increases, and the same effect of Xymedon decreases. This fact makes it possible to single out this conjugate as the most promising than Xymedon. The reported study was funded by RFBR according to the research project № 20-315-90039.

55ASM-0030 FT | *Ganoderma lucidum* in an animal model of obesity - preliminary results

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Background: Obesity is an emerging health problem worldwide. Hypercaloric or hyperlipidemic diets have been used as models of obesity induction in laboratory animals. Obesity can be influenced by regular consumption of natural bioactive compounds. Mushrooms, such as *Ganoderma lucidum* (*GL*), have been used in the human diet since ancient times and include a wide variety of biomolecules with medicinal properties. The main objective of this work was to study the effects of *G. lucidum* in an animal model of obesity.

Materials and Methods: The fruiting bodies of *GL* were provided by Bioreishi- Agricultura Biológica, Lda. All ethical issues were followed (approval n° 8776). Forty-eight male mice (C57BL/6J) were acquired and divided into 5 groups: Group (G)-1-Western Diet 0.2% Cholesterol (WD); G-2-Western Control; G-3-WD+0.7g/kg of *GL*; G-4-WD+1.4g/kg of *GL*; G-5 WD+2.8g/kg of *GL*. During the experimental study, the animals were monitored regularly. Weekly consumption of water and food was recorded, the animals were weighed individually and their temperature was measured on the back

and abdomen with a thermographic camera (FLIRE8-model E6390). At the end of 13 weeks, animals were sacrificed, and the organs removed for further analysis. A portion of the liver was used for histopathology. Chemical composition of the extract was profiled by HPLC-DAD-ESI/MS.

Results: Ganoderic acid H and *p*-hydroxybenzoic acid were the main triterpenic and phenolic acids found in the extract, respectively. Food and water consumption showed statistical differences between groups ($p < 0.05$). All animals showed weight gain with the percentage weight gain varying between 11-16%. Basal and final temperatures remained constant on the back and abdomen. The relative masses of the liver, although showing no statistically significant differences between the groups, ranged between 0.038-0.047g (G5 and G1 respectively). Histologically the most frequent morphological changes were microvesicular (39/47; 83%) and macrovesicular fatty change (steatosis).

Conclusions: The consumption of hyperlipidemic diets promotes weight gain in animals and consequently the development of obesity. The percentage of weight gain was higher in the groups that did not have *GL* supplementation, which suggests its anti-obesity properties. In this study, the animals developed steatosis, which was not modified by *GL* supplementation during the period under study. However, it should be noticed that the changes in lipid metabolism are reversible, and the differences observed in the relative masses of the liver, lower in the groups supplemented with *GL*, suggest an ongoing process of restoring to normal hepatocyte's phenotype in these study groups.

Note: First and second authors contributed equally to this work.

55ASM-0045 FT | The formation of adolescent health losses: Causes and conditions due to regional specifics

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Background: Efficient nutrition is a powerful factor in the prevention of many diseases, it helps to maintain the body in an optimal physiological state, increase immune and body