MICSCOUP onferences Accelerating Scientific Discovery

November 20-22, 2013 DoubleTree by Hilton Baltimore-BWI Airport, MD, USA

Characteristics of the gut microbiota in obese children with allergic diseases

Maksimova Olga Vladimirovna¹, Zverev V. V.^{1,2}, Zaitseva E. V.², Blinkova L. P.² and Gervazieva V. B..² ¹. M. Sechenov First Moscow State Medical University, Russia ²Mechnikov Research Institute of Vaccines and Sera, Russia

There are many evidences that obesity increases the risk of asthma and atopic diseases. Therefore, disbalance in the gut microbiota is considered one of the microecological factors responsible for the increase of body mass and changes in energy metabolism. The aim of study was to investigate the characteristics of children gut microbiota, and to recognize relations with obesity, as well as allergic disorders. The study included patients of both sexes from 3 up to 17 years old: 23 with a body mass index (BMI) from 13.08 to 57.36 with history of allergic diseases; and 5 children without allergies. In patients with a history of allergic diseases; and 5 children without allergies. In patients with a history of allergic diseases we observed atopic dermatitis - 65.21%, asthma - 17.29%, and allergic rhinitis -17.39%. Condition of gut microbiota we evaluated by analysis of fecal samples and identification of microorganisms, we studied specific IgE to bacterial antigens in blood serum of patients. In obese children, we discovered a large number of *E. coli* with reduced enzyme activity. Quantity of enterococci was 1-2 orders of magnitude higher than norm. As level of BMI increased, the number of *Candida* species increased to 10⁵ CFU/ ml. In the study of specific IgE antibodies to opportunistic microorganisms, we explored elevated levels of antibodies against *Proteus vulgaris, Klebsiella pneumoniae*, and *Streptococcus pneumoniae*. In fecal samples of children delivered by cesarean section, we detected significantly more microorganisms, which were not typical for normal microbiota, in particular *Klebsiella oxytoca, Enterobacter cowanii*. Thus, we identified and characterized the qualitative and quantitative values of gut microbiota in obese children with allergy.

Biography

Maksimova Olga Vladimirovna graduated at the age of 23 years from Lomonosov Moscow State University in 2010 with a degree "Microbiology" and entered the graduate school in the I. M. Sechenov First Moscow State Medical University in 2011 at microbiological specialization. She enjoys a good reputation in the scientific community.

labpitsred@yandex.ru