Palina Vyhouskaya et al., J Microb Biochem Technol 2016, 8:6(Suppl)
http://dx.doi.org/10.4172/1948-5948.C1.026

3rd World Congress and Expo on
Applied Microbiology
November 07-09, 2016 Dubai, UAE

New insights in the mechanisms and prophylaxis of early childhood caries

Palina Vyhouskaya[1], Anna Jurczak[2], Dorota Kościelniak[2], Anna Skalniak[3], Jakub Piątkowski[3], Ryszard Drożdż[1] and **Wirginia Krzyściak[1*]**
[1]Jagiellonian University, Poland
[2]Department of Pediatric Dentistry, Institute of Dentistry, Jagiellonian University, Medical College, Krakow, Poland
[3]Genetics Laboratory, Department of Endocrinology, Jagiellonian University, Medical College, Krakow, Poland

Background: Determination of the presence of biofilm on the tooth surface is one of the diagnostic methods of caries. This plaque is composed of saprophytic bacterial strains colonizing the oral cavity and forming a three-dimensional structure anchored to the solid surfaces and embedded in an exo-polysaccharide matrix. The ability to form such a complex structure is attributed to, among others, Streptococcus mutans that is one of the major etiologic factors of this disease.

Several direct anticaries agents (DAAs) for the treatment of early childhood caries (EEC) due to elicit side effects such as vomiting, diarrhoea, addiction or teeth discoloration. Additionaly, mechanism of action of these compounds is often incomplete relative to the bacteria colonizing the plaque. Thus, alternative substances of antibacterial properties which could be safe for users are still being searched.

The formation of genetic maps (including host, as well as microbiota) of such environments and the detection of biofactors indicating the predisposition for a given disease may contribute to the development of new diagnostic methods in reference to individual persons, and thus individualized therapy. So far, numerous active bacterial factors and molecular mechanisms of their interactions with the host have been discovered. However, the problem of the presence of healthy oral microbiome bacteria and relating teeth colonization with a potential infection development requires further study.

Biography

Palina Vyhouskaya has completed her MSc in Laboratory Medicine at Jagiellonian University Medical College in Krakow, Poland. She is currently working in the field of Laboratory Medicine at Jagiellonian University Medical College in Krakow Poland.

palina.vyhouskaya@mail.ru

Notes: