

Prebiotics induced oral microbiota changes to accompany long-lasting allergy relief

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Abstract

Statement of the Problem: The hygiene hypothesis has been proposed to explain the increase of allergy diseases for 28 years. Many studies on personal and social hygiene practices suggest their association with the prevalence of allergy diseases. However, attempts to using probiotics to cure or prevent allergy diseases have had limited effects. This study is to demonstrate that not having enough oral probiotics causes allergic rhinitis. **Methodology & Theoretical Orientation:** Saliva samples were collected from a subject for 3 years during which time the subject experienced yearlong allergy, seasonal allergy and remission of allergy symptoms. Bacterial DNA was extracted and 16S rRNA genes were profiled with Illumina sequencing technology. **Findings:** I found that Veillonella and Streptococcus were less abundant when allergy symptoms were worse and more abundant in family members without allergies. A composition made to stimulate the growth of these bacteria can relieve allergy symptoms temporarily. A combination of substantial removal of the oral biofilm using physical means, including a local pyrotherapy and usage of the composition leads to long-lasting remissions of allergy symptoms. These results indicate that one of the major causes of allergic rhinitis is likely the lack of metabolites from mutualism between Veillonella and Streptococcus, such as short chain fatty acids. Restoring the abundance of these bacteria may alleviate or even cure the disease. The easy destruction of oral biofilm by a moderate fever indicates a possible natural

negative trigger that subsequently increases the efficacy of the immune system previously restrained by metabolites from microbiota. I name this mechanism as Theory of Negative Trigger. This mechanism could explain how fever increases immunity and helps the body fight infections and even cancers. **Conclusion & Significance:** This microbiota switch for the power of the immune system may be manipulated readily at will for clinical applications.

Biography:

Cliff Shunsheng Han is a Biologist for 28 years and a former medical doctor and the inventor of AllerPops. He had been a Biologist in Los Alamos National Laboratory (LANL) for 22 years, where he participated the Human Genome Project, led a team to complete many hundreds of bacterial genomes and authored more than 300 research papers. Before that, he got his PhD from Fudan University, was trained as a medical doctor in China and worked in a mental hospital for four years.