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The benefits of alternative treatment of antibiotic-resistant infections - bacteriophages

Daniela Kantarova¹, Mojmir Vrlík¹, Ivana Peroncikova¹, Dusan Bakos², Miroslav Veverka³ and Eva Veverkova³

¹Martin's Centre of Immunology, Slovakia

²Slovak University of Technology, Slovakia

³Eurofins BEL/NOVAMANN S.R.O, Slovakia

Due to the global increase of antibiotic resistance, more and more antibiotics are rendered ineffective by drug-resistant bacteria. Although several alternatives already exist in nature, the challenge is to implement them in clinical use. One of possibilities is the use of natural predators – bacteriophages which are organisms – viruses – capable of naturally attacking and killing bacteria. The advantage of their use in clinical practice is the fact that antibiotics can not create resistance to these organisms; bacteriophages are highly specific and only infect a particular bacterial strain, which protects the natural microflora of the organism, and last but not least, the preparation of bacteriophage-containing preparations is cheaper and because of their "self-amplification" ability much faster than the development of a new antibiotics. Bacteriophages are tested in clinical trials especially in treatment of multi-resistant infections when "cocktails" of phages are used. Promising results are described also when bacteriophages are used locally for treatment of chronic wounds which are very often infected by variety of bacteria. In this case, the success of the treatment also depends on the vehicle used for transfer and survival of bacteriophages. This study was supported by the project of Ministry of Education, Science, Research and Sport of the Slovak Republic 2018/14631:8-26C0 "Development of new topical application systems containing specific bacteriophages as highly specific antibody".

Recent Publications

1. Dedinska I, Mackova N, Kantarova D, Kovacikova K, Granak K, Laca L, Miklušica J, Skalova P, Galajda P, Mokaň M. Leptin - A new marker for development of posttransplant diabetes mellitus? Journal of Diabetes and Its Complications 2018, 32 (9): 863-869. - ISSN (print) 1056-8727
2. Sojak J, Durdik P, Zatko T, Mohamedova EO, Grendar M, Ferenc P, Kantarova D, Pecova R. Context Sensitive Links Full Text Options 2 of 5 The effect of adenoidectomy on cough reflex sensitivity in atopic children. Respiratory Physiology & Neurobiology 2018, 257: 115-121. - ISSN (print) 1569-9048
3. Dedinska I, Stancik M, Laca L, Miklusica J, Kantarova D, Ulianko J, Janek J, Galajda P, Mokaň M. Correlation between CMV Infection and NODAT In: Journal of Metabolic Syndrome 2016, 5 (2): [online]. - ISSN 2167-0943
4. Sivová V, Nosalova G, Jurecek L, Turjan J, Vlčková S, Bystrický P, Kantarova D, Capek P. Fagus sylvatica glucuronoxylan sulfate - chemical profile and pharmacological view. Starch-Stärke 2016, 68 (7-8): 621-628. - ISSN 0038-9056
5. Kantarova D, Sagova I, Stancik M, Sadlonova J. Hypoglycemia associated with non-islet cell tumors In: Neoplasma 2015, 62 (6): s. 841-845. - ISSN (print) 0028-2685

Biography

Daniela Kantarova, M.D., PhD. has completed her PhD from Jessenius Medical Faculty of Comenius University, Slovakia. She is the Head of the Department of Research and Development in Martin's Centre of Immunology. She has published more than 50 papers in reputed journals, is an author and co-author of 3 monographs, her publications have 63 citations in publications registered in citation indexes.