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

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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 cannot 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.

Biography

Mario Gajdacs has completed his Graduation as a Pharmacist and has completed his PhD in Medical Microbiology in the Doctoral School of Interdisciplinary Medicine at the University of Szeged. After spending time in the clinical microbiology laboratory, he enrolled post-doctoral studies and specialized pharmacist-studies in the Institute of Pharmacodynamics and Biopharmacy, where he is currently working as an Assistant Lecturer. He has broad interdisciplinary experience in medical microbiology and the pharmacology/use of antimicrobial drugs. His research interests include the development and screening of novel compounds with antibacterial and anticancer properties, problem perception and development of antibiotic resistance by the public and various healthcare professionals and the driving forces behind the non-prudent use of antimicrobial drugs. He has published 18 papers in reputed journals.

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