

Phage Therapy May Control Staph Infections In Humans Including MRSA

ScienceDaily (Aug. 22, 2007) — Researchers from Italy have identified a bacteriophage active against *Staphylococcus aureus*, including methicillin-resistant strains, in mice and possibly humans.

S. aureus is a highly flexible and potentially dangerous pathogen capable of causing skin abscesses, wound infections, endocarditis, osteomyelitis, pneumonia and toxic shock syndrome. Due to the organism's ability to live inside cells, emerging strains are increasingly resistant to antibiotics. Currently, forty to sixty percent of reported nosocomial *S. aureus* infections in the United States and the United Kingdom are multi-drug resistant with methicillin-resistant *S. aureus* carrying a significantly higher mortality rate.

A bacteriophage, or phage for short, is a virus that infects bacteria. In the study researchers identified the phage, MSa, and tested its activity against *S. aureus* in mice. Following simultaneous inoculation with both MSa and lethal and non-lethal doses of *S. aureus* results showed MSa rescued ninety-seven percent of mice from death and fully cleared mice of non-lethal bacterial infections.

"These results suggest a potential use of the phage for the control of both local and systemic human *S. aureus* infections," say the researchers. These findings are reported in the August 2007 issue of the journal *Antimicrobial Agents and Chemotherapy*.

Reference: R. Capparelli, M. Parlato, G. Borriello, P. Salvatore, D. Iannelli. 2007. Experimental phage therapy against *Staphylococcus aureus* in mice. *Antimicrobial Agents and Chemotherapy*, 51. 8: 2765-2773.

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