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Silver bullets: a new lustre on an old antimicrobial agent

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Glossary:

Antibiotic: First coined in 1941 by Selman Waksman, the term is derived from the Greek “anti-life” or “opposing life, in this case of pertaining to the life of microbes.

Argyria: This is a rare, irreversible skin condition that tends to occur after an ingestion of silver salts or other preparations containing silver over a prolonged period of time.

Bactericide: A substance that kills bacteria directly.

Biofilms: Group of microorganisms growing together and then sticking to the host cells or surface accompanied by a matrix of extracellular material.

Colloid: A mixture of two or more dispersed insoluble particles.

Drug resistance: The reduction in effectiveness of an antimicrobial in curing infections due to a reduced susceptibility of the target microorganism. Resistance is predominantly a consequence of widespread overuse of antibiotics. This has led to a global threat to human health which is compounded by the scarcity of new antibiotics in the clinical pipeline.

Inflammation: A localized response elicited by endogenous danger signals, exogenous pathogen associated signals, injury or other destruction of cells, tissues, or organs. In the context of infection, an inflammatory response by a host serves to destroy the injurious agent, however chronic or extreme inflammation can be deleterious to the host.

MIC: Minimum inhibitory concentration, the lowest concentration of a substance that prevents the visible growth of bacteria.

ROS: Reactive oxygen species are chemically reactive substances containing oxygen.

Synergy: An effect produced by combining two agents wherein the result is greater than that observed for sum of the results elicited by the individual components.

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