TECHNOLOGY

Topical Treatment for Gonorrhea

OVERVIEW

Background

Gonorrhea is the second most common notifiable infection in the United States. While there are treatments available for gonorrhea, resistance to these antibiotics is developing, and lasting gonorrheal infections can result in reproductive complications including infertility in women. Resistance is developing to current treatments because they are systemic, broad-spectrum antibiotics used after a gonorrheal infection has occurred. Currently in the United States, the treatment of gonorrheal infection is approximately $5 billion per year. Increased resistance to existing treatments will further increase these costs as well as the use of stronger antibiotics that have greater side effects. Identification of new strategies to combat gonorrheal infection is necessary to minimize the urgent threat that drug-resistant gonorrhea currently presents.

Innovative Technology

Researchers at the University of Maryland have identified a mechanism which Neisseria gonorrhoeae, the bacteria responsible for gonorrhea, uses to infiltrate and infect humans. By identifying this mechanism, the researchers were able to identify potential treatments that would inhibit this process in patients. Resistance to this host-side treatment would be extremely difficult for N. gonorrhoeae to develop, making it an ideal treatment target. Additionally, because the treatment blocks the initial entrance of bacteria into the body, development into a cream or other surface treatment could provide localized treatment and minimal side effects.

APPLICATIONS

· Localized treatment of gonorrhea
· Prevention of gonorrheal infection in high-risk populations

ADVANTAGES

· Localized treatment minimizes chances for side effects
· Host-side target limits resistance development in N. gonorrhoeae bacteria

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Additional Information

INSTITUTION

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CATEGORIES

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