

# Source of chlamydia reinfections may be GI tract

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The current standard of care treatment for chlamydia sometimes fails to eradicate the disease, according to a review published ahead of print in *Infection and Immunity*, and the culprit may be in the gut.

*Chlamydia trachomatis* not only infects the [reproductive tract](#), but abides persistently—though benignly—in the [gastrointestinal tract](#). There it remains even after eradication from the genitals by the antibiotic, azithromycin, says first author Roger Rank, of the Arkansas Children's Research Institute, Little Rock. And that reservoir is likely a source of the all-too-common reinfections that follow treatment.

The source of the reinfections has long been a conundrum. Some are blamed on continued intercourse with an infected partner. This is not surprising since chlamydia is usually asymptomatic in men.

Chlamydiae have long been assumed often to persist within the genital tract in a non-replicating form, but Rank says there is no evidence for this. "While all agree that chlamydiae may persist in a patient for long periods of time, and that recurrent infections do develop, there has been no agreement on how and where and in what form chlamydiae persist," says Rank.

In a recent study, coauthor and Arkansas colleague Laxmi Yeruva showed in mice that azithromycin eradicated the genital [infection](#), but not the GI infection.

Rank showed further—also in mice—that chlamydial infection of the GI does not elicit an inflammatory response, and never resolves, unlike in the [genital tract](#).

"However, we found that GI infection does produce a strong immune response that can actually be effective against a genital infection, but that is unable to cure the GI infection," says Rank.

While chlamydial persistence in the GI tract has largely escaped notice of late, it was documented in the veterinary literature in numerous animals as early as the 1950s, says Rank. His reading of that early literature was a major factor motivating his and Yeruva's studies, and this review, Rank says.

*Chlamydia trachomatis* is the most common cause of [sexually transmitted disease](#) in the world. In the US, approximately 1.4 million cases occur annually, according to the Centers for Disease Control and Prevention. Adolescents are most affected, and 6.8 percent of sexually active females ages 14-19 become infected annually.

**More information:** A copy of the manuscript can be found [online](#). The final version of the article is scheduled for the April 2014 issue of Infection and Immunity.

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