

The role of bacteria in asthma and the potential for antibiotic treatment

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People with severe asthma are more likely to have antibodies against the disease-causing bacteria *Chlamydia pneumoniae* than the general population and in some cases antibiotic treatment can greatly improve symptoms according to research presented today at the 111th General Meeting of the American Society for Microbiology.

"We conclude that a subset of severe asthmatics harbor infectious *C. pneumoniae* in their lungs, resulting in [antibody production](#) and increased asthma severity," says Eduard Drizik of the University of Massachusetts, Amherst, who presented the study.

Asthma is a chronic respiratory disease, whose causes are not completely understood, affecting over 300 million people worldwide, including almost 24 million American children and adults. There is no cure for asthma and the disease is managed by controlling disease symptoms. The recognition that asthma pathogenesis involves [chronic inflammation](#) has led to a flurry of studies exploring the prevalence of various infectious organisms in the asthmatic condition.

Having previously demonstrated an increased prevalence of *C. pneumoniae* in the lungs of children and adults with asthma, the researchers conducted a study designed to determine if the presence of *Chlamydia*-specific antibodies could predict asthma severity and if these antibody-positive patients would benefit from treatment with antibiotics.

"The data revealed a statistically significant link between

Chlamydia-specific IgE antibody production and the severity of asthma," says Drizik. "Of the [asthma patients](#) analyzed, 55% had *Chlamydia*-specific IgE antibodies in their lungs compared to 12% of blood donor controls."

Moreover, patients who were treated on the basis of asthma severity with antibiotics had significant improvements in [asthma symptoms](#) and some even experienced a complete abolition of these symptoms.

"Physicians should therefore fully explore the involvement of microbes in difficult to treat asthma cases, since there might be a cure for some types of asthma after all," says Drizik.

Provided by American Society for Microbiology

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