

## UC San Diego Researchers Study Antibiotics to Ease Asthma Symptoms

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**R**esearchers at the University of California, San Diego (UCSD) Medical Center will enroll patients in a new national study to ascertain if a prolonged antibiotic treatment will ease asthma symptoms. Previous research has shown that nearly 60 percent of patients who experience uncontrolled asthma symptoms are not aware they have a chronic airway infection. This finding has initiated a nationwide study sponsored by the Asthma Clinical Research Network of the National Institutes of Health/National Heart, Lung, and Blood Institute to determine if clarithromycin (trade name Biaxin), an antibiotic, will help relieve asthma and its symptoms.

UC San Diego Medical Center is one of eight centers participating. Joe Ramsdell, M.D. and Stephen Wasserman, MD, UC San Diego Professors of Medicine, are Principal Investigators for the UC San Diego site.

"People have difficulty controlling their disease for a number of reasons," said Ramsdell.

He said practitioners know that ongoing exposure to allergens can often lead to uncontrolled asthma symptoms. Such enduring exposures include cigarette smoke and inadequate medical treatment that results when patients do not regularly use their controller medicine. Ramsdell said a chronic infection in the airways is one of the most intriguing possibilities for uncontrolled symptoms. A low-level respiratory infection may cause inflammation that does not respond to typical asthma treatment.

"We think this infection may cause a persistent release of chemicals in the airway that can thicken the airway and make the airway muscle more sensitive," said Wasserman. "This may lead to chronic breathing difficulties and more frequent asthma attacks."

He added that previous studies have suggested that chronic airway infections caused by a special class of organisms may be more prevalent in asthma sufferers whose symptoms are difficult to control. These organisms are amenable to treatment with the class of antibiotics called macrolides, but the treatment would likely need to be of longer duration than doctors commonly prescribe for acute infections, he said.

The study is designed to confirm the organisms' presence in patients with difficult asthma, and whether prolonged antibiotic treatment will clear up the infection and improve asthma symptoms.

"This could lead to a better understanding of why patients with asthma have difficulty controlling their symptoms and potentially indicate a new approach to treating these patients," says Ramsdell.

"While not the first line treatment for an asthma attack, antibiotics have been used by many physicians to treat asthma attacks when infection was thought to play a role," Ramsdell says. "Such treatments have generally been in combination with other medicines, such as oral corticosteroids, but have been of short duration. As a result, it is unknown whether a prolonged treatment course will impact symptoms and attacks."

The researchers said clarithromycin was chosen for the study because of its high potency improvement track record in terms of safety. UC San Diego Medical Center researchers will collect detailed information on airway inflammation as well as respiratory infections to determine if clarithromycin relieves asthma by reducing inflammation, curing an infection, or both. Researchers will utilize DNA testing to search for infectious organisms.

A recent study published in the *New England Journal of Medicine* showed that telithromycin, an antibiotic in the same class as clarithromycin, was somewhat effective in treating asthma attacks even in patients without respiratory infections.

Enrollment for the new study will begin mid-July 2006 and will continue until the spring of 2007. Participants will be randomly selected to receive either clarithromycin or an inactive tablet for 16 weeks and will also receive an inhaled corticosteroid (Flovent). All study-related medical evaluations and medications will be provided at no cost, and volunteers will be financially compensated for their time and effort.

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