The overprescription of antibiotics isn’t a new headline. We’ve known for years that prescribing antibiotics when they’re not necessary is a common and serious issue for long-term medical care practices and short-term unnecessary side effects. If overused, the infectious bacteria will develop a resistance to antibiotic treatments and reduce the effectiveness of the drugs, creating a “superbug.”

So how does this relate to asthma? The U.S. Department of Health and Human Services specifically does not recommend treating acute asthma with antibiotics except in patients with signs of acute bacterial infections. Yet numerous studies have found there to be an excessive amount of prescription of antibiotics to patients with asthma, especially in children.

In most cases, the inflammation associated with asthma is not caused by bacteria and can be better controlled with a steroid, usually prednisone. Dr. Sally Wenzel, Director of the University of Pittsburgh’s Asthma Institute, opened January’s Severe Asthma Support Group conference call with the following question: “If you are having a flare and living on a desert island and you could have antibiotics or prednisone, what would you take?” Each of our participants selected prednisone, with comments such as: “[Prednisone is] tried and true;” “I have been on both, but do poorly without prednisone;” “Prednisone will keep you alive;” “Steroids prevent gunk building up so…you won’t even develop bacteria.” In a small research study in which this question was asked, those who selected prednisone had high levels of eosinophils in their lungs, which relates to a typically prednisone/steroid responsive type of asthma. Those who chose antibiotics did not have a history of this inflammation.

Antibiotics can be useful in treating sinus and bronchitis-like infections that sometimes accompany asthma. However, it is usually beneficial to start with steroids (like prednisone). If antibiotics are given, it can be helpful to start with one or the other (not both together), to help determine the cause of the symptoms. Dr. Wenzel advised that when talking with your doctor, try to differentiate between a sinus problem alone, or a sinus problem which might worsen asthma symptoms. Bacterial sinus infections usually take several days to develop, so it is usually best to wait a few days after nasal/sinus symptoms develop before asking for an antibiotic. Simple approaches like salt water rinses can be beneficial in preventing a cold from developing into an antibiotic requiring sinus infection. Additionally, she emphasized the importance of finishing an antibiotic course if you start one.

Certain antibiotics, particularly macrolide antibiotics (like Z-paks, azithromycin, Biaxin/clarithromycin) have been occasionally used to treat chronic asthma. There is some suggestion that asthma patients who don’t have eosinophilic inflammation described above (particularly high levels of another normal cell, the neutrophil), may be successfully treated long term with these macrolide antibiotics. Dr. Wenzel clarified for the group that we tend to think of antibiotics as antibacterial, although macrolide antibiotics (Z-Pak, Biaxin) also have anti-neutrophil effects and can sometimes be used effectively as a long-term treatment, even in the absence of any known bacterial infection. However, studies do show that patients can still develop antibiotic resistance with long-term use.

At this point, neither steroids nor antibiotics will cure anyone’s asthma, but it’s important to be aware of the long-term effects of significant antibiotic use. One study from 2011 found that when asthma education was incorporated into the clinical visit, antibiotics were less likely to be prescribed. “This finding highlights the need for educational opportunities to inform clinicians that such co-prescription should be limited,” the authors concluded. Recent research is moving in the direction of finding specific treatments for each type of inflammation to better tailor a more effective solution without overprescription.

Asthma Support Group
Coping with asthma, particularly bad asthma, on a daily basis?
The Asthma Institute Support Group takes place via teleconference once a month.

Next Call: Monday, March 21st 6:00pm-7:00pm

To Participate via Conference Call:
US Only: 877-262-2695
International: 719-867-7633
Conference Call Access Code: 7844431

Sally Wenzel MD, Director of the University of Pittsburgh’s Asthma Institute, and Deborah Gillman PhD, psychologist with the institute, will be on the call.

Please RSVP to gillmanda@upmc.edu or 412-864-2404