

Are you putting your child at risk: the association of antibiotic use and asthma.

Many parents at some point in their life wonder what to do with a sick child. Should you take him to the doctor or just wait it out? A new article in the medical journal *Chest* may indicate that a wait and see approach is better in the long run. The article examined the effects antibiotics can have on children if given within their first year of life. Using the healthcare and prescription databases of Manitoba, Canada the study looked at 13,116 children. Of these children, 65% received at least one antibiotic prescription during their first year of life, and in all but 3% the antibiotic was a broad spectrum antibiotic.

- 40% received the antibiotic because of otitis media.
- 28% received the antibiotic for other upper respiratory tract infections.
- 19% received antibiotics for lower respiratory tract infections.
- 7% received antibiotics for non-respiratory tract infections.

Independent of well-known asthma risk factors, asthma was significantly more likely to develop in children (at age seven) who received antibiotics in their first year of life. Children who received more than four courses of antibiotics were almost twice as likely to have asthma develop.

There are a couple of hypothesis concerning allergic disease and their cause. The Microflora Hypothesis points out that early in life commensal microbial intestinal flora are responsible for proper T-cell immunologic maturation and function, and that early exposure to antibiotics alters gastrointestinal microflora and diminishes Th-1 immune responses and increases allergic airway disease.

The Hygiene Hypothesis postulates that growing up in a more hygienic environment with less microbial exposure may promote allergies or asthma due to a disruption in the immune response. Studies indicate that exposure early in life to endotoxins from the membranes of dead bacteria “may be the key element of less hygienic environments, which results in a lower prevalence of allergy and asthma.”

The human body has the ability to resist or fight most toxins or organisms that can cause harm to the tissues and organs. This is called immunity. There are two types of immunity, innate immunity and acquired immunity. The above two hypotheses refer to acquired immunity, which you get after being exposed to different toxins or organisms early in life. If this “training” is interfered with, then asthma or allergies can occur.

Since oral antibiotics are frequently prescribed for upper and lower respiratory tract infections in children, an understanding of the relation between antibiotic use and asthma is critical to clinicians and parents alike. While most doctors know antibiotics do nothing for most childhood problems, they sometimes are pressured into prescribing them, by you. A recent article in the *Journal of General Internal*

Medicine found that almost half the doctors questioned admitted to prescribing a placebo just to get the patient to leave them alone. One of the most common placebo treatments given were antibiotics for viral infections. Viral infections do not respond to antibiotics. The most common reasons why doctors prescribed placebos were to:

- Calm a patient down
- Respond to demands for medication the doctor thought were unnecessary
- Do something after all other treatment options had failed.

It should be noted that almost all the doctors, 96% of them, believed that the placebos could have a real therapeutic effect.

A separate study by the University of Michigan found that patients given placebos, but told they were painkillers, had an increased production of endorphins, your brains natural pain relievers.

When to use antibiotics is a topic with many questions and few good answers. Good health starts with proper diet and nutrition, after all a healthy kid is less likely to get sick. Next time your child has a cold or flu, consider visiting the health food store or chiropractor instead of your doctor's office. He might thank you for doing so.

- Increased risk of childhood asthma from antibiotic use in early life *Chest* June 2007;131(6):1753-9
- *Time* January 3, 2008
- *The Consumerist* January 9, 2008
- *Journal of General Internal Medicine* January, 2008, Volume 21, Number 1