

The Sinusitis-Allergies-Asthma Triangle

Whether you're a patient or a health care provider, it can be difficult to distinguish between allergy symptoms (allergic rhinitis) and sinusitis. This is no small problem. Of all the chronic diseases from which we suffer, allergic rhinitis is the most common. Approximately 30 million Americans or 15% of the U.S. population, at a cost of over 3 billion dollars per year, suffer from allergic rhinitis. Sinusitis, on the other hand, is one of the most common complications of allergic rhinitis. The problem with differentiating these two conditions occurs, because allergic rhinitis and sinusitis may both present with the same symptoms, such as fatigue, runny nose, chronic cough, congestion, post nasal drainage, headaches, facial or teeth pain, loss of taste or smell, and difficulty sleeping. Asthma, the other major complication of allergic rhinitis, is a lower airway (lung) disease that may present with cough, shortness of breath, and chest tightness, and in some studies, up to 40% of patients with allergies, have asthma.

Think then of a triangle: with allergic rhinitis on the left, causing sinusitis on the right, and both conditions causing asthma on the bottom. All three conditions can occur separately, but are closely interconnected. Remember that sinuses are simply empty cavities that surround the eyes. Air must be present in the sinuses to allow the linings of the sinuses to breathe and this is accomplished via small openings from the sinuses into the nasal passages. These openings also allow mucous from the sinuses to naturally drain into the nasal passages. If anything causes a blockage of the openings, the lack of air causes linings to use up the surrounding air supply, and like a vacuum, the resulting negative pressure will draw fluid out of the sinus linings. Fluid may then collect and fill the sinuses, which allows for bacteria to grow and cause infections. This can lead to facial pain, infected post nasal drainage and headaches. With increasing inflammation and thickening of the sinus linings, swollen tissue may round up and form nasal polyps that may cause and lead to loss of taste and smell.

Allergic rhinitis and common viral colds are the leading causes of sinusitis, and the history and physical examination will help your provider distinguish the two conditions. Allergic rhinitis may be seasonal, lasting weeks, months or even year-round, and is caused by pollen, dust mites or animal dander. Fever and discolored nasal drainage are uncommon, unless sinusitis is also present. Conversely, typical viral colds last 3-7 days, so any fever, discolored drainage, sore throat, headache or fatigue lasting longer than 7 days is very unlikely to be a simple viral cold, and is most probably sinusitis. On physical examination, patients with allergic rhinitis and sinusitis may both have dark circles under the eyes (shiners), swollen, pale nasal tissue, congestion and discharge. Patients with sinusitis, however, may also have discolored discharge.

Are x-rays necessary? Studies have shown that greater than 50-75% of allergic adults and children with asthma have abnormal sinus x-rays, and asthmatic symptoms did not improve until the sinusitis is treated completely. The best x-ray now is the computerized scan (CT scan) and a limited or screening scan of 6-7 pictures, gives better details of the sinuses without any significant increase in radiation exposure or cost.

Treatment for sinusitis consists of a combination of antibiotics, nasal decongestant sprays and nasal steroids to reduce swelling and control inflammation, and perhaps and antihistamine/ decongestant to further control allergies. Treatment may be needed for 4-8 weeks with over 90% improvement in symptoms. Bacteria causing sinusitis, in up to 40% of cases, have become resistant to amoxicillin, a commonly prescribed penicillin derivative. Alternatives that work well include once daily Tequin, Avelox and Levaquin, and twice daily Omnicef and Cefzil. Tequin, Levaquin and Avelox belong to a class of antibiotics known as quinolones. Quinolones are especially useful because they can be used once daily, have few side effects or problems with other drugs, and are available when patients are allergic to Augmentin, Omnicef or Cefzil. For those children and adults with significant environmental allergies, control measures and injections will best prevent allergies from causing sinusitis. The vast majority of patients with sinusitis can be cured with the proper medication and injections. In cases where medication fails, endoscopic surgery might be indicated to relieve pressure, infection and reduce the loss of time from work and school.

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