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Allergic Rhinitis

About 20% of people suffer from allergic rhinitis. There is evidence that allergic diseases are on the rise globally. The exact reasons for this are not clear. Allergic rhinitis can have significant impact on the quality of life in addition to placing large economic burden on the society due to treatment costs and missed days of work. The allergist-immunologist, with his or her specialized training and expertise in managing allergies, allergic rhinitis, and asthma, can develop a treatment plan for your individual condition. The goal will be to enable you lead a life that is as normal and symptom-free as possible.

People who have allergies have developed specific allergic IgE antibodies to allergens-substances, which cause allergy such as pollens, mold, dander, dust and dust mites. These IgE antibodies get fixed to the surface of cells lining the nasal, eye and sinus cavities. The cells are known as mast cells. The mast cells produce and store various chemicals such as histamine, leukotrienes and platelet-activating factor among others. When the patient inhales, the allergen to which he or she is allergic to, the allergen combines with IgE on the mast cell surface and causes liberation of these chemicals. This results in an allergic reaction

There are two phases of allergic reaction: Early phase and Late phase.

During the early phase (1-4 hours), histamine and other preformed chemical mediators are released from mast cells and other proinflammatory cells and cause dilation of blood vessels, increased blood flow, leakage of fluid from blood vessels, increased mucus production and irritation of local nerve endings. This in turn causes the familiar symptoms of nasal and eye allergy- itching, sneezing and runny nose and or itchy, watery and red eyes.

During the late phase (4-24 hours), proinflammatory cells such as eosinophils, neutrophils, basophils, lymphocytes and monocytes enter the site of allergic reaction from blood and release more inflammatory mediators, thus perpetuating the allergic reaction. This results in more inflammation at the site of reaction. This in turn causes other familiar symptoms of allergic reaction in the nose such as stuffiness and congestion.

Antihistamines are good at blocking the early phase and steroids and leukotriene antagonists such as Singulair are more effective in blocking the late phase. That is why antihistamines typically alleviate symptoms such as sneezing, itching or runny nose more effectively than nasal congestion and stuffiness. The later symptoms are more effectively controlled by inhaled steroids.

Allergic rhinitis-like any other allergic disease is the result of interaction between genes and environment. Usually there is a family history of allergic rhinitis, asthma, eczema or food allergies in one or more of the close relatives. Sometimes this history may be lacking. Usually during childhood, food allergy is the first manifestation of allergic status of a child. As the child

grows older and is exposed to more environmental allergens, the child develops indoor allergies and subsequently outdoor allergies. Initially the symptoms are seasonal mostly during spring and fall. Subsequently the symptoms become perennial. The goal is to identify individuals with allergic tendencies as early as possible and intervene to prevent the development or worsening of allergies. Therefore, we recommend doing screening allergy skin tests in children above one year of age.

There are two categories of allergic rhinitis sufferers: Runners- get predominantly sneezing, itching, runny nose and postnasal drainage and blockers-get predominantly stuffiness and congestion of the nostrils. Arbitrarily, rhinitis lasting less than six weeks is called acute rhinitis, and persistent symptoms are called chronic rhinitis. Acute rhinitis is usually caused by infections or chemical irritation. Chronic rhinitis may be caused by allergy or a variety of other factors.

A common question from allergic rhinitis sufferers is: Can I move somewhere where my allergies will go away? Some allergens are tough to escape from. Ragweed, which affects 75 percent of allergic rhinitis sufferers, blankets most of the United States. Less ragweed is found in a band along the West Coast, the southern-most tip of Florida and northern Maine, but it is still present. Even parts of Alaska and Hawaii have a little ragweed. Allergist-immunologists seldom recommend moving to another locale as a cure for allergies. A move may be of questionable value because a person may escape from allergy to ragweed, for example, only to develop sensitivity to grasses or other allergens in the new location. Since moving can have a disrupting effect on a family financially and emotionally, relocation should be considered only in an extreme situation and only after consultation with an allergist-immunologist.

Allergic rhinitis can be complicated by development of sinusitis, asthma, ear infections and even by snoring and sleep apnea. Optimal management of allergic rhinitis often results in improvement of the later complications. In one study, regular treatment with prescription nasal sprays reduced the incidence of ER attendance due to acute asthma exacerbation by 50% in adult patients with asthma and allergic rhinitis.

Besides cold and allergies, there are other causes for rhinitis. For example, frequent exposure to cigarette smoke, wood smoke, car exhaust, gasoline fumes, perfumes, colognes, hairsprays, news print, new paint and strong scented skin and body care products can cause rhinitis symptoms in many patients. Similarly changes in temperature, humidity, atmospheric pressure and ingestion of alcohol and spicy food could also result in similar symptoms. The later triggers are collectively known as nonallergic triggers to differentiate them from allergic triggers such as grasses, weeds, pollens, dust, mold and dust mites. Rhinitis caused by nonallergic triggers is known as nonallergic rhinitis [also known as vasomotor rhinitis]. Nonallergic rhinitis causes exactly similar symptoms as allergic rhinitis. Carefully history and allergy skin tests will help differentiate allergic rhinitis from nonallergic rhinitis. Occasionally rhinitis can be caused by medications such as aspirin, NSAIDs, birth control pills, hormones, certain blood pressure medications and others. Hypothyroidism if poorly controlled can also be associated with significant nasal symptoms. Abuse of certain over-the-counter nasal sprays such as Afrin could

also result in significant worsening of the nasal symptoms. This is known as rhinitis medicamentosa. Prolonged use of Afrin will result in this condition. Sniffing cocaine would also cause symptoms of rhinitis and nasal septum perforation. Pregnancy is often associated with worsening of nasal congestion and stuffiness due to the effect of hormones made by the baby. In dry climates, nasal stuffiness could be the predominant symptom resulting from dryness of the nasal mucosa. The stuffiness does not get relieved until the nose is moisturized.

Allergic rhinitis is often diagnosed by allergy skin tests or blood tests. Please refer to the section on allergy skin tests to know more about this procedure. If you have allergies to pollens, mold, animal dander, dust, dust mite, feathers or cockroach, the allergy skin tests will show positive reactions to these allergens. On the other hand if your nasal symptoms are predominately caused by irritants, the tests will be negative. There are no tests for irritants. Therefore, nonallergic rhinitis or vasomotor rhinitis is often diagnosed by excluding allergies by allergy skin tests or blood tests. Allergy skin tests and blood tests, each have their advantages and disadvantages. Discuss with your doctor about what method of testing you want to undergo.

Rhinitis is treated by three methods: 1- Avoidance of triggers, 2- Medications and 3- Allergy injections.

1. **Avoidance of triggers** is perhaps the most important and often neglected of the treatment options. It is best used in combination with the other two options. Allergic triggers as well as nonallergic triggers should be avoided. Regular vacuuming with HEPA filter containing vacuum cleaners, once a month changing of air conditioning filters, regularly using HEPA filter containing air cleaners in the bedrooms or living rooms in houses with pets, using dust mite proof encasings for pillows, mattresses and boxsprings, washing the linen once a week in hot water at temperatures of greater than 130°F, keeping the pets outside of the bedrooms or of the house, washing them with soap and water once a week, reducing the number of pets, not using feather pillows, comforters or mattresses, fixing water leaks, getting sunlight into the house, keeping the exhaust fans on in bathrooms and other places in the house for several hours daily, eradicating molds, keeping the windows and doors closed and keeping the air-conditioning on during spring and fall, and not using swamp coolers are some of the measures that could be adopted to reduce exposure to allergens in the house. People who are allergic to grass should avoid mowing grass; alternatively such people can wear goggles and masks, take antihistamines two hours before mowing the grass, take showers, and change clothes afterwards.

   Not smoking in the house or in the car, not using window drapes, minimizing number of things in the bedroom to bare minimum, using skin and body care products and cleaning products with no scent, wearing mask while using any chemicals, and driving with windows up, air-conditioning on and the circulation set for inside in motor vehicles are some of the measures that could be implemented to reduce exposure to irritants.

2. **Medications**– Medications will be effective when used in conjunction with avoidance of triggers. Antihistamines with or without decongestants and prescription nasal sprays are two commonly used types of medications. While antihistamines are good at relieving such symptoms as sneezing, itching and runny nose and itchy, red and watery eyes, prescription nasal sprays are more effective in relieving nasal congestion and stuffiness. The nasal sprays do not work immediately. They have to be used regularly to get relief. Unlike over-the-counter nasal sprays, prescription nasal sprays do not have the addiction potential. To learn more about the nasal sprays, please read the section on nasal sprays. Decongestant medications have the potential to cause sleeplessness, palpitations, shakiness, and worsening of glaucoma, blood pressure, problems with urination and heart symptoms. We do not recommend using decongestants constantly. Older antihistamines such as Benadryl, Periactin, Atarax or Chlor-Trimeton may cause significant drowsiness and tiredness. Patients who take such medications should not drive or operate heavy machinery and should not drink alcohol. Newer antihistamines such as Allegra or Claritin or Clarinex do not cause such problems. However they may cause dryness of the eyes, mouth and throat. Zyrtec, which is also a newer antihistamine, can cause sedation in up to 13% of patients. Astelin is also a newer antihistamine, which is sprayed directly in the nose twice daily. It is effective in controlling nasal congestion and postnasal drainage. It does have bitter taste. Singulair, originally prescribed for the treatment of asthma is now approved for treatment of allergic rhinitis also. Medications such as ipratropium nasal sprays or cromolyn nasal sprays are also used in the treatment of rhinitis. It is a common myth among patients that antihistamines stop working after sometime. There is no scientific proof for this notion. What is more likely is this: the patient's allergy symptoms get worse with time and antihistamines alone may not be enough to control the symptoms.

3. **Allergy injections** help relieve symptoms by making the underlying allergic diathesis milder. They have been used all over the world by millions of patients since 1911. It has 70-80% efficacy. Many insurances will pay for the injections. They are to be taken weekly during the first year and thereafter every 2-3 weeks for 3 to 5 years. They do have 1% potential to cause allergic reactions. They have several advantages over medications: They reduce the need for medications, prevent complications associated with allergic rhinitis, improve the quality of life, prevent development of new allergies and may even prevent development of asthma in children who have allergic rhinitis. To learn more about allergy injections, please read the section on allergy injections.

Allergic rhinitis while not being serious enough to take you to emergency rooms, may cause significant problems and reduce the quality of life. It may have significant impact on your work, sleep and education. By undergoing allergy evaluation and by receiving adequate treatment, you reduce the incidence of complications resulting from allergic rhinitis and improve overall quality of your life.

If you are interested in getting evaluated for rhinitis symptoms, please call our office for an appointment.