ALLERGY

Dr. Rana S.P. Singh

Dr. Rana S.P. Singh, born on 23 January 1976 in Machhagar Lachiram (Hathua) village in Gopalganj district, is a reputed physican who has specialsed on 'Allergy'. He has written a number of articles on healthcare which have found favour of publication in leading newspapers as well as medical journals. Third son of a police Inspector, Mr. Ramdhyan Singh, Dr. Rana S.P. Singh has several degrees to his credit, such as MBBS, MD (PMCH, Patna) and D.A., R.C.G.P. (London). He has read a number of papers in different national seminars, the recent being a seminar on 'epilepsy' organised by Department of Neurology, Indira Gandhi Institute of Medical Science, Patna. The present article contains useful tips on how to avoid allergy.

A. Answer these questions orally :

1. **Have you noticed that certain food items or the change of weather affect you adversely ? What happpens to you when you take such food items or find yourself in such a weather ?**

ALLERGY

One morning Prem Shankar woke up with an itching sensation of pain all over his body. He could not understand what was the problem with him. He went to a clinic. The doctor examined him and assured him that he would be O.K. in a few days. 'It's just an instance of allergy', he observed. Prem wanted to know what allergy is. So, the Doctor explained:

Allergy, you can say, is a malfunction of the human immune system causing a violent reaction against normally harmless substances in our natural environment. (You may call such substances "allergens"). The reaction creates an inflammation which, in turn, can lead to a variety of symptoms such as hay fever, eczema, asthma and other conditions popularly referred to as allergies.

There are genetic and environment risk factors. To develop allergic symptoms, one must first be exposed to the specific allergens for some time to build up the allergic sensitivity, and then once more to trigger the allergic reaction. Environmental factors, such as smoking and pollution, will also add to the risk.

Initially, allergy often appears as seemingly benign condition, such as hay fever during the pollen season. In fact, many people gradually build up on allergic condition over many years before experiencing, any symptoms whatsoever. However, for some unfortunate people, a certain food or drug or an ordinary insect bite can result in sudden, life-threatening anaphylactic shock. Furthermore, of those allergies which start as eczema or gastrointestinal problems, many evolve into asthma, frequently involving respiratory symptoms such as hyper-reactivity and obstruction of the airways. This direct path of development is widely referred to as "the allergy march".

Our basic understanding of allergy has evolved from the discovery in 1967 of a previously unknown antibody, Immunoglobulin E or "IgE", by scientists in Uppsala and Baltimore. The most significant property of IgE antibodies is that they can be specific for hundreds of different allergens. Continued research has significantly advanced our knowledge regarding, for example, the interaction between IgE and inflammatory cells.

For effective asthma medication, one needs to look beyond the obvious symptoms. Anti- histamines, for example, may provide temporary relief by masking the symptoms, but have virtually no effect on the underlying inflammation. Other pharmaceuticals, known to be effective for seasonal allergy, must be administered weeks before exposure. The clinical use of inhaled steroids is currently gaining ground due to their anti-inflammatory effects, although overtreatment may have serious side-effects. To ensure the lowest effective dosage throughout the treatment, the laboratory can periodically monitor the occurence in serum of ECP released from inflammatory cells. Eosinophilic Cationic Protein is a protein generated in certain white blood cells actively engaged in the immune defense system. Using a diagnostic test, developed by Phadia, ECP can be detected in body fluids.

Treatment of Allergies

There are three general approaches to the treatment of allergic diseases such as allergic rhintis: avoidance of the allergen, medication to relieve symptoms and allergy shots.

Suggestions to aovid allergen

- Wear a pollen mask when moving the grass or housecleaning.

- Stay indoors in the morning (when the pollen count is at its highest) and on windy days.
- Read and understand food labels (for people with food allergy).
- Keep windows and doors closed during heavy pollination seasons.
- Rid the home of indoor plants and other sources of mildew.
- Don't allow dander-producing animals in the house.
- Change feather pillows, woollen blankets and clothing to cotton or synthetic materials.
- Enclose mattress, box springs and pillows in plastic barrier cloth.
- Wash sheets, mattress pad and blankets weekly in hot water (at least 130 F).
- Remove carpets and upholstered furniture (drastic measure).
- Use acaricide (a chemical that kills house-dust mites) or a tannic acid solution (solution that neutralises the allergen in mite droppings).

Some measures for those who can afford :

- Use the air conditioner in the house and car.
- Use air filters.
- Use a dehumidifier.

GLOSSARY AND NOTES

Treatment : Clinically, a doctor can perform following procedure to assess and ascertain the severity of the allergic disease and take appropriate measure if the disease is progressing towards the severe complications.

1. Family history and nature of symptoms.
2. Physical examination and investigations.
3. Differential diagnosis between allergic and non-allergic.

A number of studies indicate that early treatment of allergy can change the course of disease progression.

Allergens : Any substance capable of producing allergy. Allergens are of two types; Seasonal Allergens and Perennial Allergens. ***Seasonal Allergens :*** Pollens and outdoor mold spores most frequently cause seasonal allergic rhinitis (sneezing); the most troublesome allergen in North America is ragweed pollen. Tree pollen occurs predominantly in April to May, grass pollen in May to June, and ragweed pollen in August to October. Outdoor mold spores occur in soil, water and rotting matter, and are released into the air when lawns are disturbed by mowing of grass and by raking of leaves. The spores are ubiquitous, stay airborne over long periods, and are most prominent from July through November. ***Perennial Allergens :*** Perennial allergic hinitis is caused by indoor allergens, such as house dust mites, animal dander, cockroaches and indoor mold spores. Dust mites thrive in humidity > 50% and damp conditions within the home encourage the growth of indoor molds.

Hyper-reactivity = Denoting increased response to stimuli

Obstruction = The blocking of iand of an opening.

Allergy = A sensitivity of the body to substances which in themselves are not irritating to the normal or exaggerated susceptibility to various foreign or substances. Allergic conditions include urticaria, shock, bronchial asthma, allergic rhinitis and eczema etc.

Immunoglobulin - A type of protin acting as an antibody, formed by the lymphocytes and plasma cells–

Inflammatory - Relating to or having an inflammation.

Inflammation - swelling of any part of the body

Hay fever - one form of allergy affecting the nose and the eyes and prevalent in the falls

Genetic - relating to reproduction

Benign - mild, not malignant

Genetic - relating to reproduction

Pollen - the male cells of certain plants

Anaphyctic shock - severe allergic reaction occuring after an injection of substance to which a person is sensitive

Gastrointestinal - relating to stomach and the intestine

Medicine - Drugs taken internally or applied externally

Histamine - A naturally occuring chemical substance in the body tissue which is powerful stimulant of gastric secretion

Pharmaceutical - Relating to the pharmacy or drugs

Inhale - To draw in the air or drug

Immune - Not susecptible to an infection

Mildew - Destructive growth on plan

Exercises

Let's Discuss

1. What are the symptoms that tell you that you are suffering from any allergic disease? What precaution would you take to overcome it ?
2. Which types of common allergic diseases are generally found in children of 0-6 years of age ?
3. What is 'allergy march' ? Explain.
4. Name some particular diseases which are caused due to change of weather. Also, mention its remedial measures.
5. Can allergic reactions be life- threatening ? Name a few such instances of allergy.
6. Suggest a few possible ways to avoid allergy.

Let's Do

1. Make a chart paper presentation of 'do's' and 'don'ts' on how to lead a healthy life.
2. Enact a Role play. One of you act as a doctor and the other as a patient suffering from cough and cold.
3. Make a list of some common allergies which people suffer. Also, suggest remedies.
4. Suggest some preventive measures to be taken by people who suffer from allergy.

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