

Original Article

Allergic rhinitis: present perspective

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Abstract:

One hundred patients of allergic rhinitis were diagnosed and treated during the period of January 2006 to December 2006. The patients belonged to different age group. Among them patients from 20 – 29 year of age group are commonly affected (43%). Female (33%) are more sufferer than male. In our study most of the patients are student (38%). House dusts mites (73%), and cold (48%), are the common etiological factors. Majority of the patients presented with sneezing (91%). we got 19% patients with co-morbid allergic conjunctivitis and sinusitis. Patients were treated with more than one drug, mainly with oral antihistamine (91%), nasal steroid (32%) and other medications. In this study, we concluded that oral antihistamine and nasal corticosteroids are the good options to treat allergic rhinitis.

Key Words: Allergic rhinitis, Seasonal, Perennial.

Introduction:

Allergic rhinitis is an IgE mediated immunological response of nasal mucosa to allergens and is characterized by sneezing,

watery nasal discharge, nasal obstruction and itching in the nose¹. Two clinical types have been recognized, seasonal and perennial.

Allergic rhinitis is a global health problem and is increasing in prevalence. The pathophysiology of allergic rhinitis is complex, involving cells, mediators, cytokines, chemokines, and adhesion molecules which co-operate in a complex network to produce the specific symptoms of allergic rhinitis and the non specific hyperactivity. The reaction can be considered in four phases: Sensitization, Subsequent reaction to allergen early phase, Late phase reaction and Systemic activation².

Allergen produce specific IgE antibody in the genetically predisposed individuals³. These antibodies become fixed to the mast cells or basophils by its Fc end. On subsequent exposure, antigen combines with IgE antibody. This reaction produces degrenulation of mast cells with release of chemical mediators. The late phase immune response occurring in approximately half of exposed patients, involves the ingress of

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eosinophils, basophils, mast cells, T lymphocytes, neutrophils, and macrophage into local tissues, all of which contribute to the inflammatory response which present as nasal obstruction and hyperactivity⁴.

Materials & Methods:

1. Type of study : Prospective study
2. Place of study: Department of Otolaryngology – Head & Neck Surgery, Medical College for Women & Hospital, Uttara, Dhaka, Bangladesh..
3. Duration of study: January 2006 to December 2006.
4. Sample size: 100 patients
5. Sampling method: Simple random sampling
6. Inclusion criteria
 - i) Clinically & investigations diagnosed cases of allergic rhinitis
 - ii) Both sexes irrespective of age were included
7. Exclusion criteria
 - i) Vasomotor rhinitis
 - ii) Rhinitis other than allergic rhinitis

Results:

Table-I
Age distribution (n=100)

Age (year)	No of patient	Percentage
0-9	02	02
10-19	24	24
20-29	43	43
30-39	15	15
>40	16	16

Table-II
Distribution of profession (n=100)

Name of profession	No of patient	Percentage
Student	38	38%
Housewife	30	30%
Service holder	23	23%
Businessman	04	04%
Garment Worker	03	03%
Driver	01	01%
Farmer	01	01%

Table-III
Etiology

Etiology	No of patient	Percentage
House dust mite	73	73%
Temperature cold	48	48%
Food	14	14%
Clothes	08	08%
Perfumes	05	05%
Pollen	03	03%
Others	05	05%

Table-IV
Distribution of clinical features (n=100)

Clinical Features	No of patient	Percentage
Sneezing	91	91%
Rhinorrhoea	78	78%
Nasal obstruction	65	65%

Table-V
Distribution of co-morbidities

Name of disease	No of patient	Percentage
Conjunctivitis	29	29%
Sinusitis	21	21%
Asthma	17	17%
Nasal Polyp	02	02%

Table-VI
Investigations

Name of test	No of patient	Percentage
IgE	42	42%
CEC	40	40%
X-ray PNS	41	41%

Table-VII
Pattern of treatment (n=100)

Treatment	No of patient	Percentage
Oral antihistamine	91	91%
Nasal steroid	32	32%
Oral decongestant	27	27%
Nasal drop	24	24%
Antileukotriene	05	05%

Discussion:

Allergic rhinitis is the common rhinological problem. It requires proper identification and adequate treatment. Prevalence figure for allergic rhinitis vary widely from 0.8 to 39.7 percent in the U.K. having a high prevalence². The international study of asthma and allergies in childhood (ISAAC) noted the prevalence of rhinitis with itchy watery eye in six to seven years old as 0.8 to 14.9 percent and 13 -14 years old from 1.4 to 39.7 percent in different countries throughout the world⁵⁻⁹. In our study, prevalence of allergic rhinitis among age group below 9 years was two percent and in the second decade was 24%, which is correlated with above studies. But in our study the people of 20-29 years age group are most commonly affected (43%).

In our study students are most commonly affected (38%), there is occupation which has more predilection for allergic rhinitis. Housewives are also affected in a good number of cases (30%). Then less commonly affected

professions are service holder (23%), businessman (4%), garment worker (3%) and others (4%).

House dust mite (73%) is the commonest etiological factor of AR in our study then the next common etiology of AR is cold (48%). The other allergens are food (14%), cloths (8%), perfumes (5%), pollen (3%) and others (5%). The majority of patients of our study present with the complaints of sneezing (91%)¹⁰⁻¹². The study people also present with rhinorrhoea (78%) and nasal obstruction (65%). These clinical features are similar with other studies¹³⁻¹⁴.

There are some co-morbid conditions associated with AR¹⁵. From our study we have seen that conjunctivitis (29%) is the common co-morbid condition and sinusitis (21%) is of the second in percentage. Other co-morbid conditions are bronchial asthma (17%) and nasal polyp (2%). Allergic rhinitis and asthma are linked by epidemiological and pathophysiological characteristics and by a common therapeutic approach. AR is the risk factor for the development of subsequent asthma but in our study only 17% cases had co-morbid asthma, which is correlated with other studies. Allergic rhinitis and asthma are considered as same airway same disease¹⁶⁻¹⁷.

We establish our diagnosis by history, clinical examination, and investigation. We have done serum IgE, and circulating eosinophil count. In majority of patients' serum IgE, and circulating eosinophil count were high. X-ray Paranasal sinus was done in some cases to exclude sinusitis, but was normal in 60% patients.

In our study we prescribed different groups of drug such as oral antihistamine, nasal steroids, oral decongestants, nasal drops and anti-leukotrienes. In this series combination of drugs is used, oral antihistamine (91%), nasal steroid (32%), oral decongestant (27%), nasal drop (24%), and anti-leukotrienes in 5% cases. Due to lack of facilities we did not advise any of our patients to have immunotherapy.

In conclusion, we observed that oral antihistamine in mild to moderate seasonal cases and nasal steroid spray in severe and perennial cases are very effective. Early diagnosis and proper treatment help reduce cost, suffering, complications and school or work absence.

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