Allergy 1982, 37, 389–396

Anamnestic Data in Allergic Rhinitis

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In a study of 770 patients with allergic rhinitis, anamnestic data were collected by means of a questionnaire.

484 (63%) of the patients were women and 286 (37%) men. 45.5% of the patients had perennial symptoms, 33.5% had seasonal symptoms only, and 21% had predominantly seasonal but also some perennial symptoms. More than 50% of the patients belonged to the age group 21–40 years. The seasonal group included significantly more young patients than the perennial group. More than 50% of the parents and about 45% of the siblings had some atopic disorder. About 20% of the rhinitis patients had a concomitant allergic disorder.

Sneezing was the commonest complaint in both rhinitis groups, but it was significantly more frequent in patients with seasonal rhinitis. Nasal blockage, again, was significantly commoner in perennial rhinitis. More than half of the patients reported severest symptoms in the morning.

282 patients had some domestic animal or pet, and 34% of these developed symptoms when close to an animal. Hypersensitivity to animals was significantly more frequent in patients who had domestic animals or pets than in those who did not. There was a clear correlation in perennial allergic rhinitis between the duration of rhinitis and deterioration of the sense of smell.

Key words: allergic; hay fever; perennial; rhinitis.

Accepted for publication 28 January 1982

Allergic rhinitis is not a clearly defined, uniform disease entity as far as definitions and etiological factors are concerned. Hypersensitivity reactions in the nasal mucosa can roughly be divided into two main groups: allergic conditions triggered by immunological mechanisms and pathological conditions due to disturbances in the vasoactive balance of the nasal mucosa. It is difficult to delimit these two forms of rhinitis and the terms allergic and vasomotor are often misused as synonyms in descriptions of nasal hypersensitivity. The periodic or continuous appearance of symptoms divides the patients into two groups: in seasonal rhinitis symptoms mainly occur during the pollen season and in perennial rhinitis symptoms persist virtually all the year round. The etiology of seasonal rhinitis is clear-cut in the majority of cases and the symptoms chiefly develop on the basis of an IgE-mediated reaction. The etiology of perennial rhinitis seems to be more complex, and attempts to identify external allergens as the cause of symptoms often fail. Rhinitis in which no external causative agent is found is commonly called intrinsic or non-allergic rhinitis in contrast to clearly allergic or extrinsic rhinitis.

Along with the advances made in immunological research more sophisticated methods have come into use in the study of allergic rhinitis. All the methods have their limitations, however, and there is no single straightforward procedure for the diagnosis of allergic rhinitis. At the same time, recent studies seem to indicate that the prevalence of allergic rhinitis is rising (2, 4, 8, 11).

In order to obtain more definite clinical information we have thoroughly examined near-

0105–4538/82/060389–08 $02.50/0 © 1982 Munksgaard, Copenhagen

ly 800 patients with allergic rhinitis. The present communication aims at elucidating the following questions from the standpoint of history:

1. What roles do age and heredity play?
2. How frequent are concomitant symptoms of atopy?
3. What are the most dominating symptoms in the two forms of rhinitis?
4. What role do certain environmental factors play?

PATIENTS AND METHODS

The study was carried out in 770 patients from southern Finland with nasal allergy. The patients were examined and treated at the Departments of Otolaryngology and Dermatology of the University Central Hospital of Helsinki, Finland, in the period 1970–1976. All the cases were diagnosed clinically as allergic rhinitis.

The comprehensive examination of the patients included taking a detailed history (6). In order to obtain comparable data, we used an allergy questionnaire, drawn up for this study (11). The information received was pooled for computer processing.

RESULTS

The patients were distributed into two main groups according to occurrence of symptoms: 512 patients had symptoms all the year round – the perennial rhinitis group, and 420 patients reported that their symptoms coincided with the pollen period – the seasonal rhinitis group. In 162 patients no clear-cut distribution between the groups could be reached and they are included in both groups. The results were evaluated according to the division into seasonal and perennial rhinitis groups.

In 683 patients an extrinsic allergic factor was identified by allergological examinations as the cause of symptoms. For the remaining 87 patients no specific allergen was verified and these cases were classified as intrinsic rhinitis.

63%, or 484 patients, were females and 37%, or 286 patients, were males. The age distribution at the time of the initial examination is presented in Figs. 1 and 2. In the whole series and also in the perennial rhinitis group, the largest age group for both sexes was the age group 31–40 years. In seasonal rhinitis the largest group among females was also the age group 31–40 years, whereas the largest group among males was the age group 21–30 years. There were significantly more patients under 20 years of age in the seasonal rhinitis group than in the perennial rhinitis group ($P < 0.001$). Only a few patients were over 60 years of age: 1.5% in the seasonal rhinitis group and 4.5% in the perennial rhinitis group.

At the time of the initial examination more than half of the patients had suffered from their disease for 1 to 10 years, and more than 30% had had symptoms for 10 years or more. There was no marked difference in the duration of symptoms between patients with seasonal and patients with perennial rhinitis (Fig. 3).

In more than 50% of the patients in the seasonal rhinitis group the onset of symptoms occurred in April and May, indicating tree pollens as the cause of rhinitis. Symptoms appeared in 43.8% of the patients in June and July when grass pollens are prevalent. Rhinitis attributable to mugwort pollen begins in August. Only 1.4% of the patients had mugwort as the sole cause of seasonal rhinitis.

The family history revealed that more than 50% of the parents and about 45% of the siblings in both rhinitis groups had some atopic disorder (Table 1).

A history of concomitant atopic dermatitis or asthma was reported by about 20% of both groups. 11% of the patients with seasonal rhinitis and 8% of those with perennial rhinitis suffered from all three disorders (Table 2).

Sneezing was the commonest complaint in both forms of rhinitis. However, this symptom was significantly more frequent among patients with seasonal symptoms ($P < 0.001$) than among those with perennial rhinitis. On the other hand, nasal blocking was significantly more common in perennial than in seasonal rhinitis ($P < 0.01$). Dyspnea seemed to be a rather common complaint both in seasonal and in perennial rhinitis, occurring in about 10% of the patients (Fig. 4).

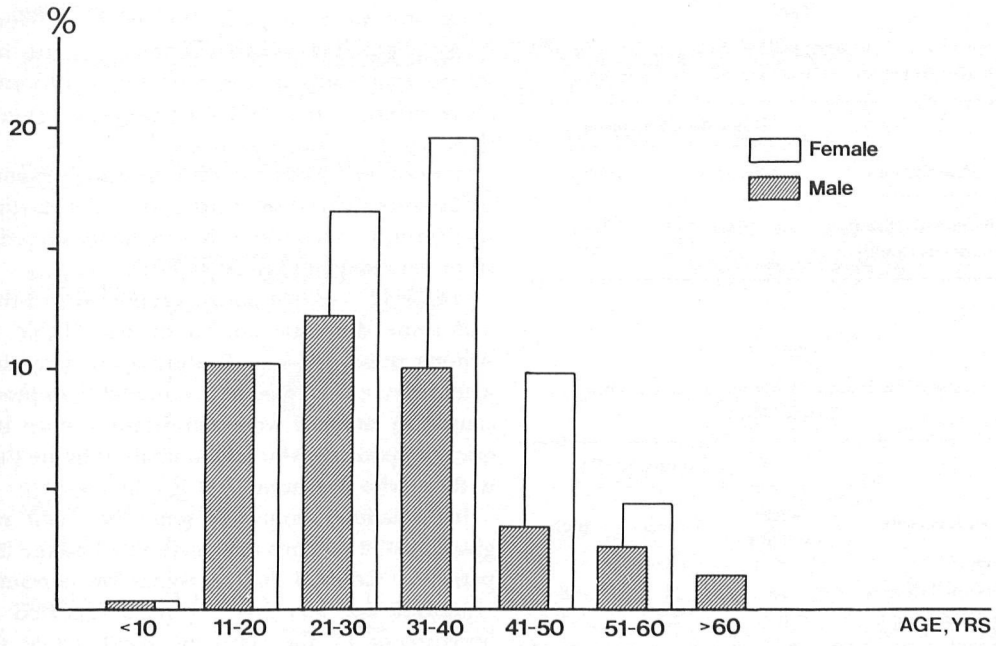


Fig. 1. Seasonal rhinitis. Age and sex distribution.

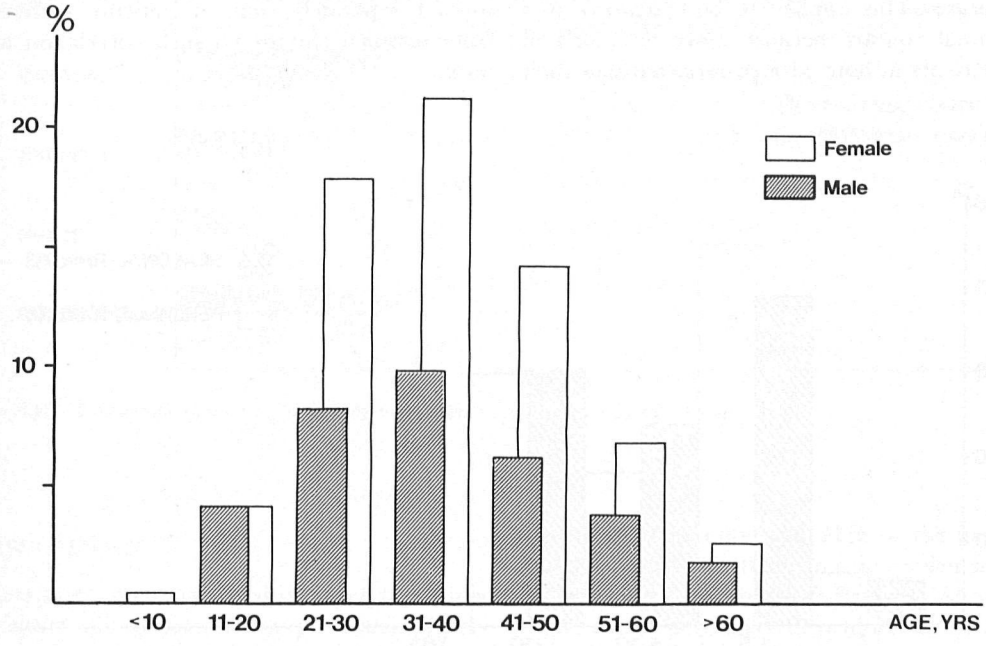


Fig. 2. Perennial rhinitis. Age and sex distribution.

Table 1

The occurrence of atopic disorders in the relatives of patients with allergic rhinitis (rhinitis, asthma, atopic dermatitis)

Patients with	Atopic disorders present in	
	Parents	Siblings
Perennial rhinitis	53%	45%
Seasonal rhinitis	52%	43%

Table 2

Concomitant atopic symptoms in patients with allergic rhinitis

Patients with	Symptoms present (%)		
	Atopic dermatitis	Asthma	Both
Perennial rhinitis	18	21	8
Seasonal rhinitis	24	19	11

Fig. 5 shows the distribution of the severest symptoms by time of day. The early morning appeared to be most difficult in regard to nasal symptoms. This applied to both seasonal and perennial rhinitis, because more than half of the patients in both groups reported that their symptoms were worst in the morning. Nonetheless, patients with perennial rhinitis had severe symptoms in the morning significantly more often than patients with seasonal rhinitis ($P < 0.01$).

Conversely, patients with seasonal rhinitis complained of severe symptoms in the daytime significantly more often than patients suffering from perennial rhinitis ($P < 0.01$).

282 or 42% of 674 patients reported that they had some domestic animal or pet (Table 3). Among these, 96 or 34% developed symptoms when they came close to an animal. Symptoms caused by animals were significantly more frequent in patients who had animals at home than in those who had none ($P < 0.01$).

Information about the sense of smell was given by 432 patients (Table 4). 92 of all the 293 patients who had had seasonal or perennial symptoms for less than 10 years reported an impairment of the sense of smell, while the corresponding figure for patients with rhinitis symptoms for more than 10 years was 56 out of 130. This difference was almost significant ($P < 0.05$). The same correlation was seen, when patients with perennial rhinitis were studied separately, but in patients suffering from seasonal rhinitis no such correlation was found.

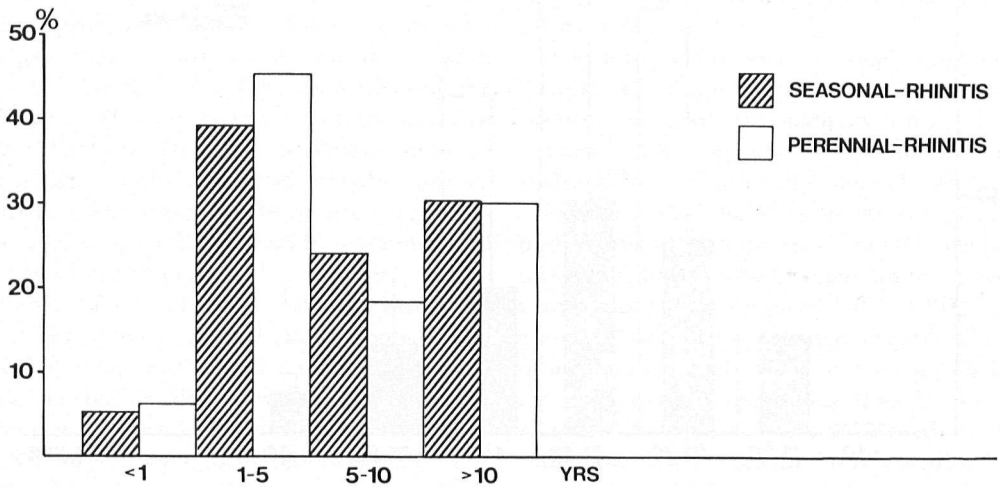


Fig. 3. Duration of allergic rhinitis at initial examination.

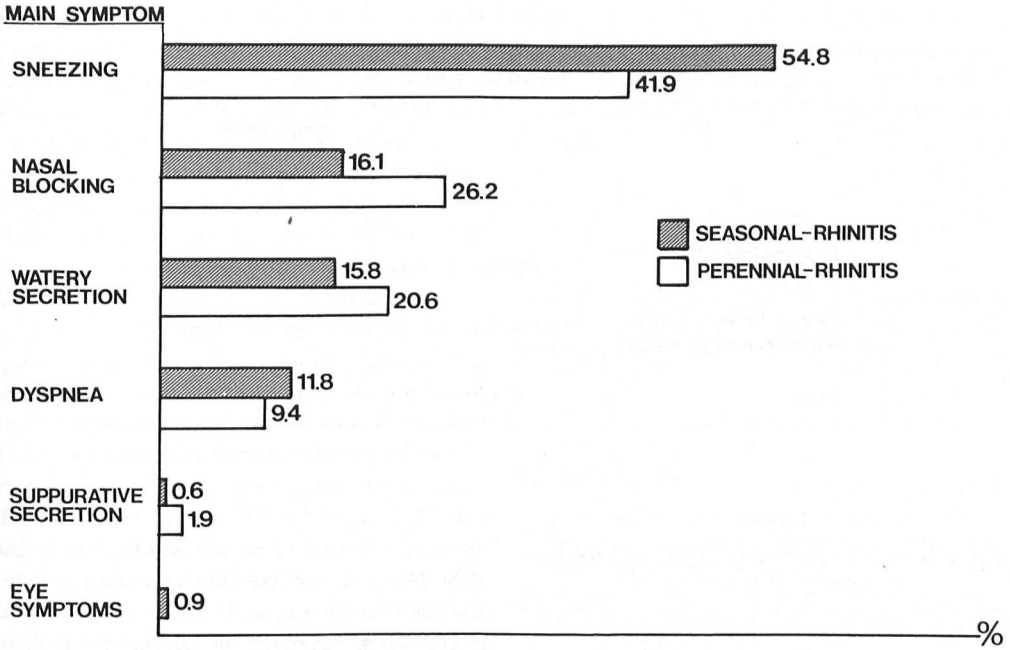


Fig. 4. Main symptoms in patients with allergic rhinitis.

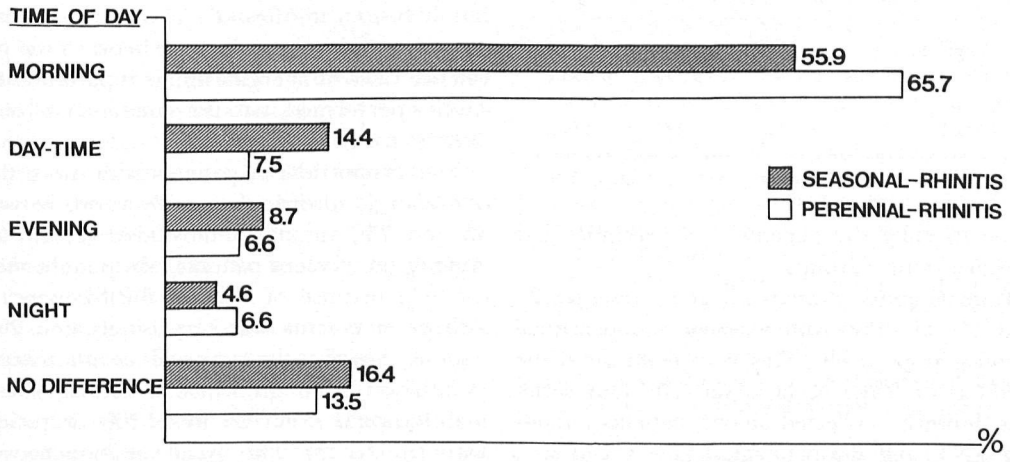


Fig. 5. Distribution of severe symptoms by time of day in patients with allergic rhinitis.

DISCUSSION

Many cases of allergic rhinitis cannot be defined as either purely seasonal or perennial. On the basis of anamnestic data 45.5% of the present patients had perennial rhinitis, 33.5% had seasonal symptoms only, and 21% of the patients had symptoms chiefly during the pollen season but also some perennial difficulties. Although these slight perennial difficulties usually required no therapeutic measures, we included the "intermediate" patients in both groups,

Table 3

Possession of animals and symptoms from exposure to animals among patients with allergic rhinitis

			Symptoms from exposure to animals	
	No. patients	%	No. patients	%
Patients with domestic animals or pets	282	42	96	34
Patients without domestic animals or pets	392	58	90	23
Total	674	100	186	57

Table 4

Correlation between impairment of the sense of smell and duration of allergic rhinitis

	Duration of rhinitis (years)		
	≤ 10	> 10	
Sense of smell	No. patients		Total
Impaired	92	56	148
Unimpaired	201	74	275
Total	293	130	423

when dividing the patients into perennial and seasonal rhinitis groups.

Patients under 20 years of age represented 21 and 8% of those with seasonal and perennial rhinitis, respectively. This is in contrast to the findings of Viner & Jackman (20). Our series was, however, collected among patients attending ENT and dermatological clinics and it is probable that the age group under 15 years is grossly underrepresented. The larger proportion of young patients among those with seasonal and of old patients among those with perennial rhinitis implies that allergic rhinitis possibly begins as a periodical trouble which later develops into a more disturbing chronic disease.

The frequency of a positive family history varies greatly in different studies, ranging from 9 to 75% (4, 5, 12, 13, 15, 16, 18, 19, 21). The frequency revealed in our study, where more than 50% of the parents and about 45% of siblings had an atopic disorder, is twice as high as the 24% reported by Peltonen et al. in a survey of allergic disease in Finnish adolescents in 1955 (14). However, a recent population study of Finnish adolescents revealed a positive family history in 50% (2). This difference is in agreement with the difference between the prevalence rates of allergic rhinitis reported in two studies performed with the same interval of 20 years (11, 14).

The proportion of patients with more than one allergic disorder generally varies between 35 and 75% in different studies (1, 16, 21). Among the present patients, who sought medical help because of rhinitis, the frequency of asthma or eczema was surprisingly low, 20%. This is, however, in agreement with a recent population study in which a second allergic manifestation occurred in 21.5% of patients with rhinitis (3). The great variation between reports in the literature probably depends on the selection of patients and the difference in methods used.

The symptomatology of allergic rhinitis is variable. Exact figures of the occurrence of different symptoms are scarce. Viner & Jackman (20) reported blockage of the nose to be the commonest symptom in perennial rhinitis. In our series, sneezing was the commonest symptom in both seasonal and perennial rhintis

and blocking of the nose was the most disturbing symptom in only 26% of the patients with perennial rhinitis. As far as fluctuation in the severity of a patient's symptoms is concerned, morning seems to be the most difficult time of the day both in perennial and seasonal rhinitis. This finding was not expected in seasonal rhinitis, because it is usually thought that the contact with pollens is more intense during daytime outdoor activities than during sleep at night. It may, however, be that the common habit of sleeping with the window open allows pollen particles to enter the bedroom in sufficient quantities to cause symptoms. It is also possible that the physiological defence processes in the nose are less efficient during the night than during the day.

Although house dust may not act as a specific allergen in a patient with pollen allergy, it adds to his allergic load. For this reason, elimination of dust from the bedroom could be used as a complementary measure in the treatment of pollen allergy patients regardless of whether the patients are allergic to house dust or not.

Pets are a common cause of allergic rhinitis (9, 17). In the present group of patients anamnestic information revealed that symptoms occurred in the vicinity of animals in 34% of those who had a pet at home. This indicates that although the patient is clearly aware of the cause of the rhinitis, nothing is done to eliminate it. It lies with the examining physician to convince the patient of the necessity to give up the contact with the animal.

Impairment of the sense of smell is a common complication of chronic rhinitis. In the present series 41% of patients with perennial and 26% of patients with seasonal rhinitis reported that their sense of smell had deteriorated. Though commoner in patients who suffer from rhinitis of very long duration, it can also be found in those who have had rhinitis seasonally for less than 10 years.

The provocation test on the reactive organ is considered the most reliable method for detecting the causative allergens (10). On the other hand, it has also been shown that careful history taking and nasal provocation give concordant results in 60% of patients with regard to the cause of the rhinitis (7). However, in a patient with negative history and positive provocation test the history is always the decisive element as far as the need of treatment is concerned.

ACKNOWLEDGEMENTS

This study was supported by Orion Corporation Research Foundation, Emil Aaltonen Foundation, Finnish Foundation for Allergic Research and by Olivetti (Finland).

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