

Long-term clinical course of hypersensitive rhinitis

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SUMMARY

Information on the long-term clinical course of hypersensitive rhinitis was collected among 180 patients who had previously participated in an allergological study. The time period between the initial study and the follow-up questionnaire study was about 18.2 years. Of the patients, 72 were men and 108 women, aged 3.6-69.3 years (mean age 28.5 years) at the time of the initial study. Initially, atopic rhinitis had been verified by allergological investigations in 61.7% while 38.3% of the cases had been designated as intrinsic. During the 18-year period symptoms decreased in severity in 37.2% and ceased completely in 27.2%. Total disappearance of symptoms was more frequent in the intrinsic than in the atopic group.

INTRODUCTION

There have been few reports on long-term prognosis in allergic rhinitis populations. In most of them, follow-up has been limited to less than ten years and the patients have been children or young adults. Spontaneous remission seems to occur in 28-54% and complete cessation of symptoms in 2-10% (Smith, 1971; Broder et al., 1974; Lehtonen and Haahtela, 1988). Freeman and Johnson's study (1964) indicated that regression of symptoms was age-related; of high-school children with onset of allergic rhinitis before the age of 10, 40% improved as compared with 29% of children with onset after the age of 10 years. A recent Finnish study (Lukin et al., 1990) reported complete disappearance of symptoms in 90% of children followed for 9.5 years up to the age of 17 to 26 years.

The purpose of the present study was to describe the changes in symptom severity that had occurred in a hypersensitive rhinitis population over a period of nearly 20 years. In these patients, the ages at onset of rhinitis ranged from 3 to 59 years.

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PATIENTS AND METHODS

During the period 1969–1972, patients remitted to the ENT Clinic of the University Central Hospital of Helsinki with a clinical diagnosis of allergic rhinitis underwent a fixed set of investigations which included history taking, skin testing, nasal provocation and otorhinolaryngological examinations. Altogether 770 patients were studied (Binder et al., 1982). A diagnosis of atopic rhinitis was accepted if the patient had at least one positive skin test confirmed by positive nasal provocation. If no allergen could be verified the disease was classified as intrinsic rhinitis.

A questionnaire study was performed in 1989 in those of the 770 patients who could still be reached. The questionnaire was returned by 186 of 261 contacted subjects and 180 of them were accepted for the analyses. The average duration of follow-up was 18.2 years (range 16.45–19.83 years).

RESULTS

Of all 180 subjects who completed the questionnaire, 131 or 73% reported that they still had symptoms of hypersensitive rhinitis and 49 or 27% that symptoms no longer occurred. In the initial investigations 18 years earlier, rhinitis had been classified as atopic in 87 and as intrinsic disease in 44 of the 131 subjects who still had symptoms. Of those who had become free of symptoms, 24 had had atopic and 25 intrinsic rhinitis.

Thus, the frequency of remission was 22% in the atopic group (24 of 111) and 36% in the intrinsic group (25 of 69).

More than half of the subjects (51.1%) who still had hypersensitive rhinitis felt that their symptoms had become milder over the past two decades. Only 15.3% stated that their symptoms had become more severe (Table 1).

Of the patients whose rhinitis symptoms had appeared after the age of 20 years, 37.5% reported complete remission and 30.7% milder symptoms, while the corresponding rates in the group where the age of the onset was under 20 years were 18.0% and 44.9% respectively (Table 2).

Table 1. Changes in hypersensitive rhinitis symptoms in 180 subjects participating in a questionnaire study 18.2 years after initial examinations and diagnosis.

	verified atopic rhinitis (n = 111)	intrinsic rhinitis (n = 69)	total (n = 180)
total remission	24	25	49
symptoms still occur	87	44	131
- have become milder	49	18	67
- equally severe	25	16	41
- worse	12	8	20

Table 2. Changes in hypersensitive rhinitis symptoms in 180 subjects participating in a questionnaire study 18.2 years after initial examinations (by age of onset).

	<20		≥20		unknown		total	
	n=78	%	n=88	%	n=14	%	n=180	%
total remission	14	17.95	33	37.5	2	14.29	49	27.22
symptoms still occur	64	82.05	55	62.5	12	85.71	131	72.78
- have become milder	35	44.87	27	30.68	5	35.71	67	37.22
- equally severe	20	25.64	14	15.91	7	50	41	22.78
- worse	8	10.26	12	13.64	0	0	20	11.11

In the follow-up questionnaires, 39 subjects reported purely seasonal and 83 purely perennial symptoms. Nine subjects stated that they had perennial symptoms with seasonal exacerbations. In the histories taken 18 years earlier, the corresponding data for these 131 subjects had been: 34 purely seasonal, 44 purely perennial and 47 perennial symptoms with seasonal exacerbations. In six cases these data had not been recorded. The changes in the appearance of symptoms over the 18-year period are presented in Figure 1a and b.

Of all 180 subjects, 74% had used antihistamines, 49% nasal corticoid aerosols, 43% vasoconstrictor drops or aerosols, 41% sodium cromoglycate and 25% oral sympathomimetic drugs for their rhinitis symptoms. Nine percent had not used any medication.

61 of all 180 subjects had undergone nasal surgery one or more times because of rhinitis symptoms. The most frequently performed procedures were polypectomy and septoplasty (Table 3a). In addition, adenoidectomy had been performed on five patients. None of the patients felt that rhinitis symptoms had become worse following surgery (Table 3a). Of the operations, septoplasty seemed to alleviate nasal symptoms most effectively (Table 3b).

Table 3a. Nasal surgery in a series of 180 hypersensitive rhinitis subjects followed for 18.2 years. Number of subjects operated upon and opinion on the effect of surgery.

	atopic group (n=34/111)	intrinsic group (n=32/69)	total (n=66/180)
<i>operation</i>			
polypectomy	15	21	36
septoplasty	19	16	35
maxillary sinus operation	6	11	17
adenoidectomy	4	1	5
<i>effect of surgery</i>			
improved	23	22	45
no effect	9	8	15
worse	0	0	0

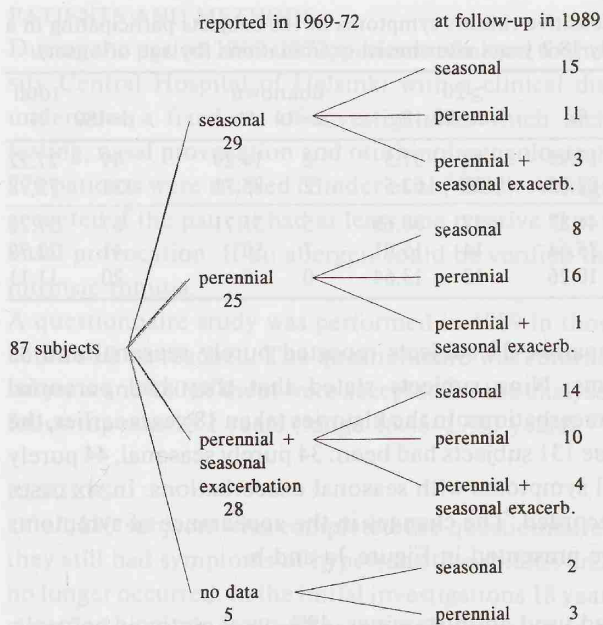


Figure 1a. Changes in the appearance of symptoms reported by 87 atopic rhinitis patients still having symptoms, after follow-up for 18.2 years.

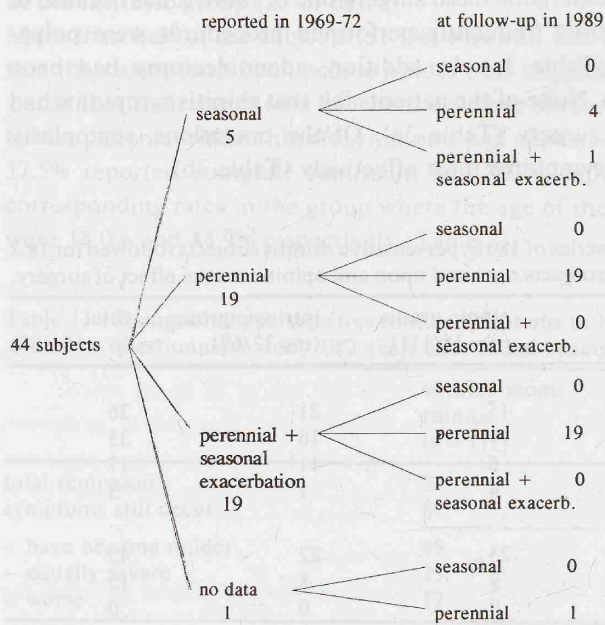


Figure 1b. Changes in the appearance of symptoms reported by 44 intrinsic rhinitis patients still having symptoms, after follow-up for 18.2 years.

Table 3b. Possible effect of septoplasty on changes in hypersensitive rhinitis symptoms in 180 subjects participating in a questionnaire study 18.2 years after initial examinations.

	patients undergoing septoplasty		no septoplasty	
	n=35	%	n=145	%
total remission	12	34.29	37	25.52
symptoms still occur	23	65.71	108	74.48
- have become milder	12	34.29	55	37.93
- equally severe	7	20.00	34	23.45
- worse	2	5.71	18	12.41

DISCUSSION

This follow-up study was carried out almost 20 years after our initial investigations of the patients and we were able to locate only about one third of the subjects studied in 1969–1972. However, this sample is probably large enough to give a picture of the whole series. Of 261 contacted subjects, 180 returned acceptably completed questionnaires. The most difficult part of the analysis was perhaps classification of the subject as atopic or non-atopic. This classification was based on information in the initial study and the criteria of atopic rhinitis were rather stringent: in addition to a positive history, the subject had to have at least one positive skin test confirmed by nasal provocation to be included in the atopic group. In the intrinsic group, the subjects had perennial symptoms with no definite evidence of an atopic aetiology.

There are obvious limitations in using a questionnaire to collect information. In the present study, this was particularly evident in the answers concerning appearance of asthmatic symptoms and these data have not been included in this report. Conclusions as to how many of these hypersensitive rhinitis patients developed asthma in the course of 18 years cannot be drawn until clinical examinations of the subjects have been made.

According to the questionnaire replies, improvement or total remission had occurred in 116 of 180 subjects (64%). This is in agreement with the observations made in allergic rhinitis series with shorter follow-up (Haahtela and Lehtonen, 1988). Only 20 of the 180 subjects (11%) felt that their symptoms had become more severe. The information obtained in this study also indicates that a patient with seasonal symptoms gradually begins to develop symptoms all the year round. Other mechanisms triggering the symptoms emerge and atopy begins to play a diminishing role as causal factor.

Surgical treatment of a patient with allergic rhinitis aims at restoring the functions of the upper airways. On the other hand, operations are performed as conservatively as possible, because extensive tissue damage may make allergic symptoms more severe. In the present series, 45 of 66 reported improvement

following nasal surgery or adenoidectomy. None felt that their allergy had become worse as a result of surgery.

CONCLUSIONS

This study supports earlier observations that nasal hypersensitivity symptoms disappear or become less severe with the passage of time. In this series with stringent criteria of atopy, remission or improvement had occurred more frequently in the intrinsic than the atopic group. Reliable information on the development of asthmatic symptoms in subjects with allergic rhinitis cannot be obtained by a questionnaire alone.

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