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ALLERGIC EXAMINATION AND ANTIALLERGIC TREATMENT OF VASOMOTOR RHINITIS

By

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In 1933, the seventh Northern Otolaryngological Congress was held here in Oslo. On that occasion Jens Kragh¹ presented his investigations on vasomotor rhinitis and hay fever and published them in a booklet entitled *Allergic Rhinitis*. This title reveals how strongly Kragh advocated vasomotor rhinitis to be an allergic disease. He placed stress on inhalants as the main factors and considered foods and bacteria as rare causes of vasomotor rhinitis.

What makes it difficult to evaluate vasomotor rhinitis as an allergic or non-allergic disease is the composition of the materials published, because they all include cases of vasomotor rhinitis and asthma. Thus in Kragh's material of 21 patients, 10 were suffering from asthma. When one finds in such material a high percentage of allergy, this may be due to the fact that the majority of the patients were suffering from another allergic disease, namely asthma.

The present material comprises cases of vasomotor rhinitis only, i.e. no patients suffering from both vasomotor rhinitis and asthma. Within a five years' period (1947-51) the patients consulted the Allergy Clinic, Copenhagen, for vasomotor rhinitis. The material consists of 182 patients, 54 males,

¹ Jens Kragh: Allergic Rhinitis, VIIth Northern Otolaryngologic Congress, Oslo 1933.

121 females, and 7 children. It must be stressed that the Allergic Clinic rarely treats children, so that seven children out of 182 patients can give no information about the frequency of vasomotor rhinitis in children in comparison with adults.

The figures, however, confirm the fact that in vasomotor rhinitis there is a definite dominance of the female sex, in contradistinction to the ratio in hay fever.

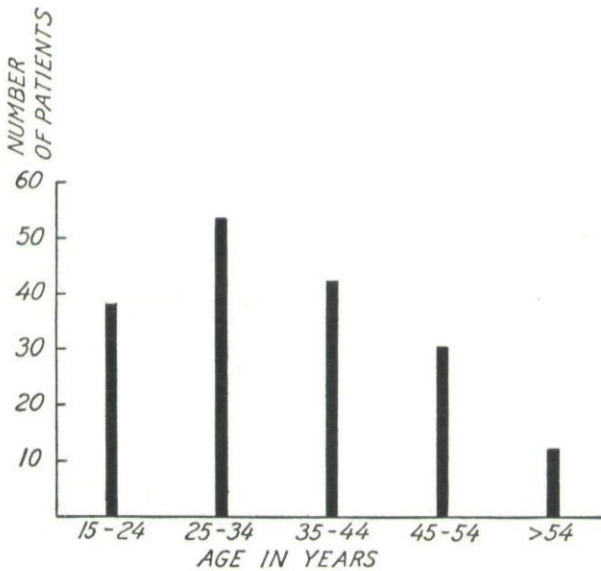


Fig. 1.

Age distribution in 175 adults suffering from vasomotor rhinitis.

Fig. 1 illustrates the distribution of age at the beginning of the condition. Most cases are found in the group of 25-34 years, which is somewhat later in appearance than in a hay fever.

The blood sedimentation rate was examined in 160 patients, and was below 10 mm in 129 patients, 10- $<$ 20 in 24 patients, 20- $<$ 30 in 5 patients, and 30- $<$ 40 in 1 patient.

Rhinological examination was undertaken in 155 patients, the results of which appear from Table 1.

TABLE 1
Rhinological examination of 155 patients suffering from vasomotor rhinitis.

	Number of patients	
Nothing abnormal	77	136
Deviation of the septum	14	
Hyperplasia of chonchae, oedema	45	
Polypi, polyposis	16	
Chronic rhinitis	1	19
Atrophic rhinitis	1	
Infectious sinusitis	1	
Total 155 patients		

Deviation of the septum, hyperplasia of the chonchae and oedema of mucosa can hardly be considered as true pathological changes; together with the group "nothing abnormal", these patients in all make a total of 136 cases. This means that in the majority of cases, no pathological changes could be demonstrated. Furthermore, the table illustrates that infection was unimportant in the present material, which is indicated, too, from the low figures of the blood sedimentation rates.

X-ray examination was undertaken in 102 patients. The results appear from Table 2.

TABLE 2
X-ray examination in 102 patients suffering from vasomotor rhinitis.

	Number of patients	
Nothing abnormal	58	
Oedema (opacity)	41	
Fluid	2	
Polypi	1	
Total 102 patients		

In 89 patients a simultaneous rhinological and roentgenological examination was undertaken. The results are shown in Table 3.

TABLE 3

Correspondence or non-correspondence between rhinological and roentgenological examinations in 89 patients with vasomotor rhinitis.

	Number of patients
Nothing abnormal, rhinologically and roentgenologically	48
Pathologic changes, rhinologically and roentgenologically	10
Pathologic changes, rhinologically not roentgenologically	9
Pathologic changes, roentgenologically not rhinologically	22
Total 89 patients	

As could be expected, the X-ray examination and the rhinological examination supplement each other so that one should not primarily rely on one of these examinations alone; even for a skilled rhinologist, the diagnosis of allergic sinusitis may be difficult, yet the rhinologist is able to diagnose changes of the mucosa which cannot be shown by X-rays.

All patients were examined for allergy partly by intradermal tests, partly by the examination of the eosinophilic cells of the blood. Positive intradermal reactions were always closely correlated to the anamnesis, and no case was considered allergic solely on the basis of positive intradermal reactions. In selected cases exposure tests were performed. The Prausnitz-Küstner reaction has not been applied in the present material.

TABLE 4

Allergic examination in 182 patients with vasomotor rhinitis.

Allergy demonstrated in 88 patients (48 per cent); of these, blood eosinophilia was found in 37 (42 per cent).
Allergy not demonstrated in 94 patients (52 per cent); of these, blood eosinophilia was found in 13 (14 per cent).

Table 4 shows that allergy as a causative factor of vasomotor rhinitis only could be demonstrated in less than half of the patients. It will further be seen that in patients with relevant positive intradermal reactions, blood eosinophilia was found more frequently (42 per cent) than in the group of patients without demonstrable allergy, in which group only 14 per cent revealed eosinophilia. Probably these 14 per cent are of allergic origin, too, but it proved impossible to demonstrate the allergens by the usual diagnostic procedures.

The nature of the etiology allergens in the allergic cases is shown in Table 5.

TABLE 5
Etiological causes in 88 patients suffering from allergic vasomotor rhinitis.

	Number of patients
House dust (standard dust or autodust) ...	29
Feathers	26
House dust and feathers	18
Flour	4
House dust and pollen	3
Pollen	1
Animal hairs	3
Moulds	2
Moulds and house dust	2
Total 88 patients	

84 of the 88 allergic patients were desensitized with extracts of the allergen in question; in four patients elimination treatment was instituted (e.g., by the establishment of a bedroom without feathers, or by removal of a dog or cat). Of 94 patients without demonstrable allergy, 40 were not treated, as they were only advised to consult the Clinic for a possible allergy; 24 patients were treated non-specifically by intramuscular injections of sulphur oil; 28 patients were treated with antihistamines and 2 patients with an anticatarrh vaccine. All treatment were performed in a relatively short

period of about three months, and the results have been evaluated immediately after the treatment and re-evaluated in the spring of 1954, i.e., with a period of observation of two to seven years.

RESULTS

TABLE 6

Results of treatment in patients suffering from vasomotor rhinitis, (A) immediately after treatment, (B) after a period of observation of two to seven years. A total of 138 patients were treated; information about the immediate result was obtained in 137 patients, about the result after two to seven years in 121 patients.

(A) Immediately after treatment:

	Specific desensitization	Sulphur oil	Antihistamines	Antica- tarrh vaccine	Total
Without symptoms	19 } = 70 %	1 } = 46 %	0 } = 75 %		
Improved	40 }	10 }	21 }		
Unchanged or worse	25 = 30 %	13 = 54 %	7 = 25 %	1	
Number of patients	84	24	28	1	137

(B) Upon reexamination (after 2-7 years):

	Specific desensitization	Sulphur oil	Antihistamines	Antica- tarrh vaccine	Total
Without symptoms	12 } = 49 %	2 } = 33 %	1 } = 27 %		
Improved	25 }	5 }	5 }		
Unchanged or worse	40 = 51 %	14 = 67 %	16 = 73 %	1	
Number of patients	77	21	22	1	121

Table 6 illustrates that none of the treatments applied gave excellent results. In the acute stage, antihistamines were effective in the majority of cases, but, as could be expected, the effect was of short duration. With specific desensitization immediate improvement was found in 70 per cent, but at the end of the period of observation, only in 49 per cent. Aiming to obtain a result of longer duration, the Allergy Clinic, since 1952, has therefore adopted the method of continuous desensitization over a period of several years, but the results cannot as yet be evaluated. Non-specific treatment with injections of sulphur oil may help about half of the non-allergic cases immediately, and about one-third in the long run.

With all methods of treatment of this complaint, spontaneous relapses must be taken into account; therefore, some of the favourable results must be considered to be an expression of the periodicity of the disease, cf. the spontaneous variations of urticaria.

DISCUSSION

The present material was selected in several ways: it comprises comparatively few children and, of the adults, only cases serious enough that the patients were asked by their local doctor to seek a specialist. No doubt, many patients with vasomotor rhinitis put up with their symptoms without seeking the help of a specialist, or they obtain some relief from antihistamines prescribed by their own doctor.

Furthermore, the material was selected in such a way that it only contains cases of vasomotor rhinitis without the complication of asthma. It is well-known that asthma, in many cases, is preceded by a stage of vasomotor rhinitis, and if such patients had been included in the material, a higher percentage of allergy would have been demonstrated.

It would be of great value to obtain information about the number of patients suffering from vasomotor rhinitis who will develop asthma later on. The present material cannot

elucidate this question, the period of observation being too short for this purpose. The patients must, no doubt, be kept under observation for at least 10 years before decisive conclusions can be drawn on this point. Many asthmatics have suffered for years from vasomotor rhinitis before getting asthma; the author has seen several cases of a ten-year period of vasomotor rhinitis, preceding the beginning of asthma. With the above-mentioned reservation it can be stated that none of the 182 patients have sought the Allergy Clinic for asthma, but upon re-examination, 5 patients had developed asthma, none, however, severely. These 5 cases all belong to the group of cases of allergic vasomotor rhinitis.

It may seem reasonable to divide vasomotor rhinitis in two groups of which one is of allergic etiology and may develop into asthma. The non-allergic group comprises cases of physical, psychological and infectious origin. In such patients, the reaction takes place in a formerly normal mucous membrane and not in an allergic mucosa with all its possibilities of giving rise to other allergic symptoms. From a prognostic point of view, too, it may be reasonable to distinguish between these two forms, but the present investigation cannot give sufficient information on this point.

SUMMARY

Over a period of five years (1947-1951), 182 patients were examined for vasomotor rhinitis; the material only comprises cases without complications of asthma. There was a definite dominance of the female sex.

Allergy was demonstrated in 48 per cent. The etiological factors in the majority of the patients were house dust and/or feathers.

Allergic cases were treated with specific desensitization. The non-allergic were divided into two fairly equal groups, of which one was treated with injections of sulphur oil, the other with antihistamines. The results of the various forms of therapy were evaluated immediately after treatment,

and after a period of observation of two to seven years. Antihistamines were of good, immediate effect in the majority of the cases, but in the long run none of the methods applied presented more than mediocre results. Specific desensitization, however, seemed to be of greater value than any of the other forms of treatment, and it may be that the results can be improved by continuous desensitization as a long term treatment.

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