

(From the Outpatient Department for Children with Allergic Diseases, Rigshospitalet, Copenhagen, Denmark. Chief: Professor P. Plum, M.D.)

ALLERGIC CHILDREN WITH RHINOPATHIES

By

KNUD WILKEN-JENSEN

This investigation was carried out in order to get an idea how allergic children reacted to treatment, not only regarding their rhinopathies, but also their asthma.

The series of cases described comprises allergic children with one or more of the following diagnoses: allergic rhinitis, summer hay fever, adenoids or sinusitis. In 184 cases the patient had bronchial asthma or asthmatic bronchitis too, in 23 cases the allergic nasal symptoms have been the only reason for the examination in the clinic.

In the course of the period from January 1st, 1950, to April 1st, 1952, altogether 512 new patients were examined, 225 of these presented symptoms of rhinopathies of the kind mentioned above. All of them have also been examined in the Otorhinolaryngological Department of the hospital. The age- and sex-incidence appears from Table 1 and shows nothing unusual. $\frac{2}{3}$ are boys and $\frac{1}{3}$ girls. Of all the patients 44 % have rhinopathies, 42 % of the boys and 48 % of the girls. Table 2 shows the figures for the different ages. Table 3 shows the percentage of rhinopathies in the different ages which seems to be the same.

The reason why there were so few children under 3 years of age was that it was considered that such small children would suffer too much if they had to pass through the ordinary ambulant examination of the clinic which, in deference

TABLE 1

All new patients examined in the clinic 1/1-1950-1/4-1952.

Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Boys	7	18	36	22	34	25	40	26	20	28	27	23	25	6	3
Girls	4	4	18	16	17	10	13	12	15	14	15	10	14	8	2
Total	11	22	54	38	51	35	53	38	35	42	42	33	39	14	5

Children with rhinopathies.

Boys	2	12	7	8	11	17	19	14	8	9	14	6	14	1
Girls	1	2	10	6	9	3	4	11	8	5	7	8	6	3
Total	3	14	17	14	20	20	23	25	16	14	21	14	20	4

In all 340 boys and 172 girls, out of which 142 boys and 83 girls with rhinopathies.

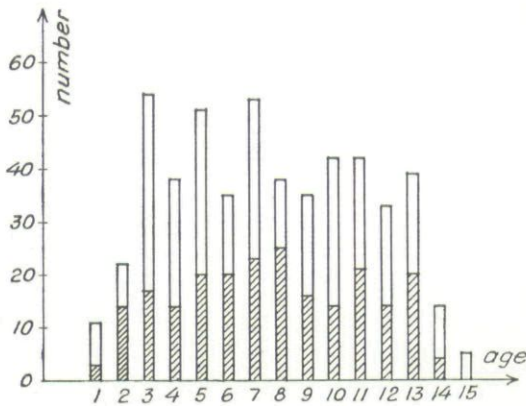


TABLE 2

to the many patients who live far away, is arranged so that it can be carried through in 3 days (15). Only very few of the patients, especially the youngest, have been admitted to the department.

So far as diagnoses are concerned all the adenoids have been found by the E-N-T department and the word "sinus-



TABLE 3

TABLE 4

Diagnoses for the 207 children whose result of treatment is given.

Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Rhin. allerg.		3	4	2	8	8	11	12	11	9	9	7	6	2
„ + Febr. aest.													2	
„ + Veg. ad.		2		1		1					1		1	
„ + Sinus.				3	6	1	3	5	1	2	5	3	3	2
„ Veg. ad. + Sin. ...			2	2	1	1	1	1	1					
Febr. aest.							1			1	2	3	2	
„ + Veg. ad.					1								1	
„ + Sinus.								1						
„ + Veg. ad. + Sin.							1							
Veget. aden.	3	7	7	3	1	4	1	2		1	1		1	
„ + Sinus.				1	1	1		2	2					
Sinusitis					1		3	2	1	1	1	1	3	

In all: Rhinitis allergica 143

Febris aestivalis 15

Vegetationes adenoides 56

Sinusitis 65

itis" is indicative of infection in a few cases only and most frequently stands for oedema of the mucous membrane of the sinus, but a single positive X-ray finding without symptoms has in no case caused the patients to be included in this analysis.

The diagnostic distribution in the series is shown in Table 4.

The treatment of choice was specific desensitization which in most cases was given by the patient's own doctor according to the directions of the clinic. In a number of cases local treatment was also used (in the form of ephedrine-saline), antihistaminic agents have been given and the patients have been told to avoid feathers. In most cases, instillation in the nose was used only for short periods in order to prevent the mucous membrane from becoming ephedrine-resistant. As a rule antihistaminic agents were not used as symptomatic treatment of the allergic nasal or bronchial symptoms, but to counteract local or general reactions occurring in some cases after a desensitizing injection (14). All patients were recommended to replace their pillow with a folded—if desired, basted—bath towel in the pillow case and to use wollen blankets instead of eiderdown and featherbed; such things can be washed and exposure to dust, feathers and moulds is thus avoided, and out of the 130 children who reacted to allergens 114 showed cutaneous reactions to these 3 things and in 87 cases to these only.

In some cases it was necessary to use psychotherapy and it appeared in a number of children that where somatic treatment had brought some improvement, but no freedom from attacks, even a brief psychological elucidation with simultaneous treatment, proved to be an excellent supplement.

Desensitization was in 39 cases carried out with the bacterial vaccine against asthma from the Statens Seruminstitut, Copenhagen (6), 43 children were desensitized with various extracts (from the Allergological Laboratory of Frihavnsapoteket, Copenhagen) and 88 children received both kinds of treatment. Adenotomy or tonsillotomy or both were done

in 45 children and parents and/or children were treated with psychotherapy in 25 cases. 14 children were not given any of these 3 forms of therapy.

The case history decided whether a vaccine should be used whereas the skin tests influenced the question as to which extract—if any—was to be injected (11, 12, 15). In the youngest children infectious allergy was predominant, and with advancing age a greater number of children were treated with allergenic extracts (see Table 5), which is in agreement with Flensburg's view (5), but apparently at variance with the opinion of Salén and co-workers (13).

TABLE 5

	below 5 years	over 10 years
Seruminst. Asthmavaccine	15	2
Allergen extract	3	19
Both	9	26

In analysing the results of treatment I—like Henriksen (9)—attached most importance to the information received from the patients' doctors, the patients themselves and their parents. This information was obtained either by regular correspondence, by sending out questionnaires or by constant personal contact. Unfortunately, information is insufficient in 18 children so that the statement comprises only 207 children.

In recording the results the three symbols ++, + and — have been used. ++ means that the child has been freed from symptoms (from the nose or the bronchi, although with adenoids and sinusitis it means asthma attacks only), or that the attacks have been reduced to such a minimum that they are not troublesome. Improvement is often so marked that one might feel induced to speak of recovery, except that these are allergic patients. + means a distinct and unquestionable improvement. — stands for doubtful or no improvement.

In Tables 6, 7, 8 and 9 the following abbreviations are used:

C. D. = Complete desensitization.

I. D. = Incomplete desensitization.

Ad. = Adenotomy (or tonsillotomy or both).

Ps. = Psychotherapy.

The figures before the oblique lines refer to children whose result of treatment has been expressed with ++. The figures after the lines indicate the total number of children in that particular group.

TABLE 6
Rhinitis allergica.

Age	C. D.	C. D. + Ad.	C. D. + Ps.	C. D. + Ad. + Ps.	Ad.	Ps.	I. D.	I. D. + Ad.	—	Total
1-2	3/3						0/1		0/1	3/5
3-4	4/5	1/1			0/1	0/1	0/3	0/3		5/14
5-6	11/13	1/1	2/3	0/1	0/1		2/6		1/1	17/26
7-8	11/13	1/1	4/4		2/2	1/1	5/9		2/3	26/33
9-10	8/8	1/1	1/3			1/1	8/12		0/1	19/24
11-12	13/13	1/1	2/2			0/2	1/6		0/1	17/25
13-14	7/8						1/4		2/4	10/16
Total	57/63	5/5	9/10	0/1	2/4	2/5	17/41	0/3	5/11	97/143

The results of treatment in the 143 children with allergic rhinitis are given in Table 6. 97 became completely free from symptoms or almost so (++), 31 showed distinct improvement (+) and 15 remained unchanged (—). It will readily be seen that the most unsatisfactory results are obtained among the children who have received insufficient treatment. Still it also appears that 5 out of 11 children recovered without desensitization, adenotomy or psychotherapy. Four of these were mild cases which subsided with nasal instillations, antihistaminic agents and avoidance of feathers, the fifth was treated with excellent effect by a chiropractor (though not in the clinic).

Table 7 shows the results of treatment in the 15 children with seasonal hay fever. They all improved, one, however,

TABLE 7
Febris aestivalis.

C. D.	11/11	
C. D. + Ad. ...	1/1	
I. D.	1/1	
I. D. + Ps.	0/1	(although the patient had improved somewhat [+])
—	1/1	(the patient had shortly before had adenoids removed, histamines were given)
Total	14/15	

not sufficiently to be marked ++. The fact that one patient underwent adenotomy was due to the presence of adenoids in addition to the hay fever.

TABLE 8
Vegetationes adenoides.

Age	Ad.	Ad. + C. D.	Ad. + Ps. + C. D.	Ad. + Ps.	Ad. + I. D.	C. D.	C. D. + Ps.	—	Total
1-2	5/5	3/3			0/1	1/1		1/2	10/12
3-4	1/3	4/5		1/1	1/5	1/2			8/16
5-6	1/2	4/4	1/2	1/1		1/1	1/1		9/11
7-8	3/3	2/2				3/3			8/8
9-10		2/2	1/1			1/1			4/4
11-12		2/2							2/2
13-14				1/1		1/1		1/1	3/3
Total	10/13	17/18	2/3	3/3	1/6	8/9	1/1	2/3	44/56

In Table 8 it can be seen that children with adenoids were treated with psychotherapy too but it should be borne in mind that asthmatic symptoms were prominent in the majority of the patients, and the various forms of treatment have been given in this table—inter alia—to test the effect of isolated adenoidectomy. It appears that the effect of adenoidectomy only was so good in 10 cases that other forms of treatment were not required. In the last 3 cases the treatment was also effective, though only estimated at +. A transient effect was

seen in 3 patients whereas in others no difference was noted after adenoidectomy and supplementing treatment was therefore given in such cases. It may seem strange that 2 patients with adenoids made a good recovery without receiving any of the forms of treatment mentioned. One was given a vaccine from the Statens Seruminstitut against catarrhal affections, the other had allergic rhinitis as well and—as already mentioned—was treated by a chiropractor.

TABLE 9
Sinusitis.

Age	C. D.	C. D. + Ad.	C. D. + Ps.	C. D. + Ad. + Ps.	I. D.	I. D. + Ad.	I. D. + Ps.	Ad.	Ps.	—	Total
1-2											
3-4	1/1	1/1			0/2	0/2		0/2			2/8
5-6	4/5	2/2	1/2	1/2	0/1						8/12
7-8	7/7	1/1	1/1		4/6		1/2	1/1		0/1	15/19
9-10	3/3	2/2			1/2		1/1				7/8
11-12	4/4				1/4				0/1	0/1	5/10
13-14	3/3				0/3					1/2	4/8
Total	22/23	6/6	2/3	1/2	6/18	0/2	2/3	1/3	0/1	1/4	41/65

Table 9—as Table 8—shows the result to the asthma. It was possible only in some cases to take a control X-ray and the findings were then negative. The patient mentioned who improved considerably without any specific treatment was given an antihistaminic agent and instillations into the nose as he had an allergic rhinitis too.

The results of the different treatments for all the patients are shown in Table 10. Summarizing it may be said that in 151 cases the result was good, in 37 cases the condition improved, of the remaining 19, 5 children showed a transient improvement while in 14 cases there was doubtful or no effect.

In 115 cases in which complete desensitization, possibly supplemented by adenoidectomy or tonsillectomy or psycho-

TABLE 10

	Total	++	+	÷
Compl. desens. alone	83	76	5	2
" " + Aden.	18	17	1	0
" " + Aden. + Ps.	3	2	1	0
" " + Ps.	11	10	1	0
" " in all	115	105	8	2
Incompl. desens. alone	46	20	17	9
" " + Aden.	6	1	3	2
" " + Ps.	3	2	1	0
" " in all	55	23	21	11
Adenotomy alone	15	12	3	0
" + Ps.	3	3	0	0
" in all	45	35	8	2
Psychotherapy alone	5	2	3	0
" in all	25	19	6	0
	207	151	37	19

therapy, was carried through, the effect was estimated at ++ in 105 cases, at + in 8 cases and at — in 2, whereas among the 55 with incomplete desensitization only 23 improved sufficiently to be estimated at ++, 21 were marked + and 11 cases only at —. It is thus apparently of great importance that desensitization is carried through sufficiently long and regularly.

TABLE 11

	Complete Desens.				Incomplete Desens. and other forms of treatment			
	Total	++	+	÷	Total	++	+	÷
Rhinopathies (207 cases)	115:	105 (= 91 %)	8	2	92:	46 (= 50 %)	29	17
Bronch. asthma (184 cases)	104:	86 (= 84 %)	18	—	80:	40 (= 50 %)	31	9

When complete desensitization is compared with all other forms of treatment, the results are very much in favour of it. Both with the rhinopathies and the bronchial symptoms, it is evident that to make the allergic child symptomfree, finding the provoking allergen and also persistent and longlasting desensitization, is very important.

The results obtained can be said to be satisfactory, considering that the treatment has been given in the great majority of cases by doctors who could not be expected to have any special knowledge of, or take any special interest in, allergy. Also patients often had to go on shorter or longer journeys in order to get the—in the beginning weekly—injection, and finally, there are often psychological difficulties in allergic families.

A comparable series has not been found in the literature of recent years, and in this clinic it has been impossible to keep some of the patients as controls, especially owing to the long distances for most of them. This fact is also the reason why desensitization with vaccine and extract in so many cases has been started at once although one form of treatment might have proved sufficient. In other cases we did not wait for the result of adenoidectomy before starting desensitization.

Desensitization was incomplete in 55 children for the following reasons: 18 of them were feeling so well that their doctor and/or parents considered continued treatment superfluous, 7 stopped treatment on account of vaccine reactions, 7 appeared very irregularly for treatment, possibly owing to conditions at home, 4 were impatient, 1 was sent to a home for the mentally defective and in 1 case the treatment was discontinued by the doctor for unknown reasons. 17 are still being treated.

The surgical treatment used comprised only adenoidectomy and tonsillotomy and the operations were only performed if the adenoid or tonsillar hypertrophies were suspected to be infectious foci forming the basis of an infectious allergy or if they caused obstructions to the passage in such a way that the removal would have been contemplated in non-allergic

children too. Table 8 shows that of the 44 adenotomized patients, 13 had no other treatment and out of these 10 were free from symptoms afterwards while 3 improved somewhat, but it appears from the literature that opinions differ very much in this respect (1, 2, 3, 4, 7, 8, 10).

When other forms of treatment were insufficient, psychotherapy was sometimes instituted. In 25 cases after treatment, 19 were marked with ++ and only 6 with +. In 5 cases of allergic rhinitis no other treatment was given and of these the result in 2 cases was ++, in 3 +. If it had been possible this form of therapy would have been instituted in many more cases but—especially in the provincial towns—more psychologists are needed. To the allergists and paediatricians who are aware of the psychological factors in the clinical picture of these children, there is no doubt about the benefit of even a mild form of psychotherapy. But unfortunately there are still many allergists who undertake only a somatic examination and treatment, and it is only in very recent years that text-books on paediatrics and allergy have taken an interest in the importance of allergic childrens' environment and psyche. According to the experience of the clinic, allergic disorders of the respiratory tract are never of a purely psychological origin, but are always combined with some sort of hypersensitivity (16). Desensitization and elimination is the routine treatment, but psychotherapy is often an excellent, in some cases indispensable, supplement and the best results with allergic children are apparently obtained when treatment is individualized and no fixed schedule is followed.

SUMMARY

A little less than half the allergic children examined suffer from rhinopathies. After 1-3 years the results of the different forms of treatment were reviewed, the ordinary treatment consisting of desensitization and elimination. It appeared to be essential both for the nose and the bronchi, to carry desensitization through regularly and for a sufficiently long period.

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