

was prescribed. Entire relief of discomfort followed.

Case No. 14.—Miss D. came on December 2, 1921. She gave a history of having had a tonsillectomy. The right middle turbinate at its anterior end had been operated upon. The left ethmoids and sphenoids had been opened. Increasing deafness was noted. Her complaint was a feeling of tightness in the nose and a slight postnasal discharge.

The nose appeared free and clear. The blood was positive for malaria.

Case No. 15.—Miss B. presented herself July, 1921. She had some discomfort in reading and was refracted. October 24, 1921, there was a recurrence of an old corneal ulcer. The blood was positive for malaria. Local treatments were given and quinin was begun.

Case No. 16.—Miss L. D., age 12, consulted me on March, 1921. She was refracted and prescribed +1.00 for both eyes.

November 18, 1921, headaches and frequent sore throat were complained of. Glasses were found satisfactory.

The throat showed general redness. The tonsils were small and there was pus. The adenoids were very small. The blood was positive for malaria. She was advised to take quinin. About one week later she was taken sick and was treated for the malaria.

Case No. 17.—N. A., age 10, on October 8, 1921, came to see me. He had a marginal ulcer. Local treatment consisted of atropin, etc. The blood was positive for malaria and quinin was begun.

Case No. 18.—H., age 12, on October 6, 1921, was sent home from school because of being unable to study. He had had considerable headaches while in school for several weeks. He was refracted and accepted +0.25 for each eye. Vision was 20/15. The blood was positive for malaria. Quinin was begun.

A NEW TREATMENT FOR HAY-FEVER DURING THE ATTACK*

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Hay-fever has occupied the thoughts of the medical profession for many years and the lack of success attending its treatment is made manifest by the almost unlimited number of therapeutic agents that have been used for it.

It has been regarded by many as a so-called neurosis or hysterical manifestation. From this reasoning its existence

has been scoffed at and its victims classed with those who could be well if they wished, but preferred the questionable happiness of suffering. That this line of reasoning is not true we are all well aware, for to all of us has come one or more such sufferers during the time of their attack, and that they are all real sufferers is evident.

Of the many therapeutic agents used up to a short time ago none met with any uniform success. The one that was used about the time of the first severe frost was branded as the panacea for that particular person, but his hopes were shattered upon using this remedy in the early part of his next attack.

Correcting deficiency of aeration and drainage of the nose was sometimes of great aid and should always be done if needed, but it should only be done in intervals between attacks. Operative intervention during an attack of hay-fever is not justifiable as it adds to the patient's discomfort and may cause serious infection.

Correcting errors of digestion and regulating the habits of life have been of much assistance in many cases and should be practiced in every case, but such procedure is only an aid to other treatment and must be regarded as such.

Sending the sufferer to another climate, as on a sea-voyage or to some mountainous region where the vegetation is entirely dissimilar to that of the location where he lives is always efficacious in relieving an attack, but the sacrifices of time and money necessary to make such a journey annually are usually too great for the sufferer to make.

The history of the growth and development of the use of pollen extracts with skin tests to determine to what organism the patient is sensitive are too recent in our literature to need more than mention before this audience. Certainly this form of treatment has met with greater success in preventing attacks of hay-fever than any other with which I am acquainted. In spite of the success of such treatment and the general knowledge of it, there are some patients who seek relief only when an attack is on them and with these the use of pollen extracts is of no benefit. It is with

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this class of patients that the treatment about to be outlined is used and in my hands it has proven most beneficial.

PREPARATION OF THE FILTRATE

Dry cotton swabs are placed in each side of the nose, well up in the region of the middle turbinate and allowed to remain from three to ten minutes or until thoroughly saturated with the secretion present. The swabs are then removed and placed with about 20 c. c. of sterile water in a small Mandel filter. The filter is now placed over a small glass beaker and the entire apparatus set aside for filtration. The filtration takes from two to six hours, so the patient is directed to return the following day for injection. A fresh filtrate is made for each injection and the injections are given intra-muscularly.

For the first injection, the solution that comes through the filter is diluted, one part of filtrate to seven of sterile water and $\frac{1}{2}$ c. c. of this dilution is given. For the next injection given, dilution is made from one to six, and $\frac{3}{4}$ c. c. is given, and for each succeeding dose, the dilution is decreased by one and the size of the injection increases by $\frac{1}{4}$ c. c. Thus when the seventh dose is given, the dilution is only one and the injection 2 c. c. After this, if more is to be given the straight filtrate can be used, but the dosage should be cut back to say a $\frac{1}{2}$ or $\frac{3}{4}$ c. c., particularly if there has been much local or systemic reaction to the diluted dosage. Following this, the straight filtrate dosage can be increased according to reaction.

Filtrate	Sterile water	Dosage
1 part to	7	$\frac{1}{2}$ c. c.
1 part to	6	$\frac{3}{4}$ c. c.
1 part to	5	1 c. c.
1 part to	4	$1\frac{1}{4}$ c. c.
1 part to	3	$1\frac{1}{2}$ c. c.
1 part to	2	$1\frac{3}{4}$ c. c.
1 part to	1	2 c. c.
1 part to	0	$\frac{1}{2}$ c. c.

In using these injections it has been found that the best results have been gotten in patients in whom a reaction occurred after use of the injection.

Cases histories are too many to be given and are similar in most particulars. One small boy recently was relieved of all of his symptoms after the first injection but his reaction was so marked that he had a temperature of 101° F. and was confined to the bed for 24 hours. This is the most prompt relief yet obtained. About 75% of the cases treated have been entirely relieved or had their symptoms markedly abated by from seven to ten injections.

After use of this, patients should be tested for their specific reaction, but this should be done during the period of freedom from hay-fever. Some will neglect to do this in spite of warnings that it should be done. A number of such patients have come to me for a second seasonal treatment and in the majority of cases, they have stated that their attack was not so severe as it had been the previous year.

This method of treatment was worked out at the suggestion of and in connection with Dr. George W. McKenzie, of Philadelphia, and we have found it beneficial in other forms of rhinorrhoea than the one under discussion here.

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