SENSITIZATION IN VASO-MOTOR RHINITIS.*

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The condition which it is proposed to discuss tonight has three characteristic symptoms; first, the blocking of the nares; second, violent recurring attacks of sneezing; third, profuse watery discharge from nose, often remarkable in quantity. The complaint may be of any one of these three symptoms, but all of them occur in every case, the variation being only in the proportion of each.

The blocking of the nares is always intermittent. It may come and go in a few minutes. It is frequently first one side and then the other. A patient may enter your office with one side of the nose completely blocked by edema and a few minutes later, without treatment, the nose will be free. The blocking may occur only when lying down. It takes many modes of occurrence. Its characteristic feature is that it is intermittent.

The sneezing may be very violent and prolonged or simply so frequent and persistent as to be annoying. In severe cases the paroxysms of sneezing last until the patient is totally exhausted and the sneezing ceases simply because the victim has not strength enough to sneeze again.

The profuse, watery discharge, occasionally irritating, but usually bland, varies greatly in amount. It is usually measured by the number of handkerchiefs used in a day. The number often runs up to twelve or fifteen.

The condition has been given many names, among them: 1. rhinorrhea; 2. nasal hydrorrhea; 3. paroxysmal hydrorrhea; 4. coryza vasomotoria; 5. vaso-motor rhinitis. Of all these names the last is the one in most common use at present. Many etiological factors have been given but since 1916 it has been known that the condition is one of anaphylaxis. I have had the opportunity to test out a number of these cases and will mention the details of a few.

Case 1. G. H., male, age 40, married; first seen in June, 1920. Had trouble in the antrum on the right on and off for several years—had several operations on the nose. Since October, 1919, now a period of nine months, has had nasal obstruction quite complete, lasting from a few hours to ten days—practically never comfortable in his nose and did not go more than twenty-four hours

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without marked blocking. He had noticed that it was worse when he was constipated; that it came on when he washed his face. Exposure to dust of any kind made him extremely uncomfortable. General examination showed a man of a remarkably good physical condition except for the nose and several pyorrheal pockets. Sensitizations in this case were multiple and chiefly bacterial, the positive ones as follows:

1. Wheat XX, 2. Clematis XX, 3. Asters XXX, 4 Staph. Aur. XX, 5. Staph. Alb. XX, 6. Catarrhalis XX, 7. Typhosis XXX, 8. Strep. XXX.

X-rays of the teeth showed that there were five dental abscesses in addition to the pyorrheal pockets. The patient was sent to the dentist, who pulled out nine teeth. The relief was almost instant and in a few days the patient was quite free from symptoms and remained so for four weeks. In the latter part of July, seven weeks from the time when first seen, had pain again in his antrum with sneezing. The symptoms, however, so far as the nose was concerned, were comparatively slight.

Antrum was now irrigated and patient considerably relieved, but in September, had marked recurrence of symptoms following an excursion into the woods bringing home a large armful of asters. At this point, it is well worth while to point out the importance of completely testing out these cases, in order to be perfectly certain where one stands. The first nose blocking which had continued nine months was, undoubtedly, due to bacterial sensitization from the dental abscesses. After these were drained, he was de-sensitized to the streptococcus, and was greatly improved until about six weeks later his antrum filled up, whereupon his state of sensitization to bacteria was again brought on by the retention of pus in his antrum. This again was drained. He was de-sensitized and again made comfortable. In September his symptoms appeared again, with no evidence of pus retention at any point, and we might have been misled in this case had our first examination not revealed the sensitization to the pollen of asters. This was explained to the patient, the wild flowers were banished from his house and with the exception of an occasional windy day, he was fairly comfortable until the first frost. Since that time he has had absolutely no recurrence of the trouble.

This is an instance of recurrence of edema of the nares dependent upon bacterial sensitization with later symptoms due to pollen. The detail history shows how important it is to follow up these cases and how complicated they may be.

Case 2. H. W., 26 years old, married, sheet-metal worker; first seen in March, 1919. Has never been ill in bed except two days with influenza in 1918. Had some joint symptoms without fever until tonsils were taken out May, 1919. About January began to have attacks of severe sneezing, lasting from 7 to 9 a. m., with continuous discharge of watery discharge from the nose. These attacks would be very severe for one to three days and recur at intervals of one or two weeks gradually coming nearer together. The morning sneezing persisted even between attacks. Sneezing was so severe that he was very weak, had palpitation on exertion and cramp-like pains in the region of the heart. At one time had severe cramps in abdominal muscles near the costal margin. This made him very uncomfortable for two weeks.

Had multiple sensitization: egg white XX, carrots XX, beets XX, pears XX, peas XXX, strep. XX, ragweed pollen XX.

General examination showed a normal physical condition except for nose and several devitalized teeth. On inquiring about the foods to which he was sensitized, it was found that he had been eating four to six eggs a day for the last year or two. He was, therefore, requested to abstain from all foods to which he was sensitized and he was given treatment to de-sensitize him to the streptococcus. Treatment was begun on March 20 and in four days had marked relief. During the next three weeks he was free from symptoms and came in complaining that he had not enough to eat on the strict diet. During the next week he had one moderate sneezing attack—continued under observation until June 15 with very few symptoms—almost complete relief. On June 15 de-sensitization for ragweed was begun, and he had later in the summer some mild hay-fever symptoms, much less, however, than he had had in the year before. No report since September, 1920.

While the symptoms in this case were very similar to those in case one, the cause was quite different, the symptoms here being, undoubtedly, due to the sensitization to foods.

Case 3. Male, age 41, married, masseur; first seen October, 1919. Complained of continual watery discharge from the nose, with sneezing for the last two years; complained of occasionally sitting up all night because of shortness of breath, and after one such experience, I detected the next day a few expiratory rales at the base of each lung. No doubt he had an occasional nocturnal asthma but did not recognize it. States that he had had the nasal symptoms for about nine years, but during the last two years they had

been almost constant; had typhoid fever in 1912, with good recovery, and thinks he has a mild hay-fever in summer in July; had had tonsils taken out in October, 1918, without effect on complaint.

Sensitization: pork XX, corn XX, apples XX, rice XX, wheat XX, timothy XX.

After discovery of the food sensitization and inquiry about diet, it was found that he had some very peculiar ideas and was living almost exclusively on fruits, bread and milk—gave mild reaction to micrococcus catarrhalis. With diet regulations and bacterial desensitization, this man improved slowly but steadily and remained quite free from symptoms until June, 1920. Since then I have had no report about him.

Case 4. M. N., age 29, married, clerk in store; first seen in December, 1920. History negative, except that he had had sub-mucous resection for nasal obstruction in 1913; complained of complete blocking of nose for the last three months; sneezed a remarkable number of times every day, often getting out at night and hanging on to a heavy chair in order to avoid hurting himself by his sneezing. Exercised a good deal, and while punching a bag or taking severe exercise, finds that his nose is quite clear; has chronic constipation which brings on headaches if allowed to go too long.

Sensitization: buckwheat XX, cabbage XX, onions XX, parsnips XX, potatoes XX, dog hair XX, goose feathers XX, strep. XX.

On inquiry found that he slept on a feather pillow, and found that he was something of a dog fancier. On leaving off the feather pillow and getting rid of his dog, experienced almost immediate relief from his discomfort at night; could now sleep nearly all night, but had some sneezing in the early morning and blocking of his nose at intervals through the day, was then put on a diet excluding the articles to which he was sensitized, and found in a few days that his bowels were moving normally. I may say, incidentally, that this is not the only case in which gastro-intestinal symptoms have cleared up with the diet based upon the food sensitization.

The patient, although much improved, cannot be said to have made a complete recovery.

Case 5. Miss B., age 25, stenographer; complaint, remarkable watery discharge from the nose. Family history negative, except that mother has hay-fever. The patient has always been well until the present illness. First seen November 1, 1920. Had gradually increasing difficulty with nose, the chief complaint was the watery discharge, but also complained that her nose was completely blocked

at night so that she breathed exclusively through the mouth, and also that she sneezed from one-half to two hours every morning and somewhat through the day; thought she had hay-fever because it began in July, but it had continued to grow worse rather than better. She complained, also, of a sensation of tickling in the back of the throat.

Sensitizations: lettuce XX, typhoid bacillus XXX, chicken feathers XXX, goose feathers XXX, sweet clover pollen XX.

The patient was immediately advised to sleep without a feather pillow, and came back in a week reporting about 50 per cent improvement. Inquiry, however, developed that her roommate who slept in a separate bed, still used a feather pillow. She was finally persuaded to replace this with an air cushion, and the patient felt quite free from the symptoms for about two weeks, and then went out of town for three weeks, and had very little trouble. On return after January first, began sneezing again after occupying her old room. It was then discovered that her roommate, who stayed in the room during the holidays, had again used the feather pillow while the patient was out of town. The feathers were disposed of and the talcum powder banished from the room, and the patient has been quite comfortable and almost entirely free from symptoms. She sneezes slightly oftener than normal, but has no nasal blocking and no watery discharge. She is still under observation.

This case is interesting inasmuch as sensitization to dust of feathers, which is so often the cause of asthma, in this instance produced only the symptoms of nasal edema.

Case 6. School boy, aged 11, sent for nasal blocking; never very strong, takes cold easily, nasal polyps removed May 1920; tonsils taken out June, 1920; hay-fever for about six years beginning in July; last year had bad asthma, following hay-fever. He has had a good deal of asthma during the night. First seen October 19, 1920; not able to go to school because of continued stoppage of nose; this comes and goes with very little warning; free nasal breathing never lasts more than ten minutes in succession; first one side will block and then the other. At night both sides are completely stopped. On exertion one or both sides will often open.

Examination showed a flat-chested emaciated boy with evidence of infantile rickets. His mother stated that he would often sneeze twenty times in succession, even when asleep, and had done it so often that it would not wake him up. It had been her practice to

place six large handkerchiefs along the head of the bed. In the morning all would be soaked and wet.

Sensitizations: corn XX, rice XX, tomatoes XX, lettuce XXX, parsnips XXX, potatoes XXX, cat hair XXXX, chicken feathers XX, horse dander XX, five nasal bacteria XX, clematis XXX, golden rod XXX, clover XX, dandelion XX, nasturtium XX, timothy XX.

This remarkable list of sensitizations, including not only foods, but bacteria and pollens, as well as cat hair and chicken feathers, would not seem at all promising for treatment. However, the treatment indicated by the test, was advised, the cats were removed from the house; feather pillows were taken out of his room, and his diet was arranged to avoid the articles of foods to which he was sensitized. In addition to this, attempts were made to de-sensitize him to the bacteria to which he gave reactions. Treatment was begun on December 8. By the end of two weeks his mother reported that he was steadily improving and now sleeps all night; nose very much clearer, and had sneezed only twice in the last twenty-four hours. By January 1, his nights were perfectly quiet; there was no mouth breathing and he has slept more quietly than ever before. The patient is still under observation, but has been practically free of the symptoms from his nose for ten weeks.

Case 7. Miss T., age 20; complaint, remarkable discharge of watery mucus from the nose. First seen March 8, 1921. The complaint dated from April, 1920. Took treatment all summer for supposed hay-fever, without relief; wakes about five every morning with her nose completely blocked and sneezes until she is tired out; nose continues to run, soaking four or five men's handkerchiefs in the forenoon. No treatment that she has had has apparently influenced the condition; had been tested out for food sensitizations before coming to me with negative results. The skin tests were all negative in this patient, except *orris root* and *rice powder*, both of which are used in talcum and face powder. When this reaction was pointed out to her, she immediately acquiesced in the idea that this was the probable cause, inasmuch as she had noticed that her sneezing attacks often came on after the use of powder.

The absence of other sensitizations in this patient indicated a very special etiology for the condition, and it was thought that retention behind a high nasal spur might account for the condition. This patient has, therefore, been referred for operation upon the nose, after which, I hope it will be possible to de-sensitize her, and relieve her of her unpleasant symptoms.

COMMENT.

The local lesion, caused by application of an irritating protein to the mucous membrane of a sensitized animal, is inflammatory in character with pain, swelling, redness and edema. The red color often disappears quickly, leaving the patch of white edema. The whole picture is consistent with the recognized phenomena of sensitization, and that, undoubtedly, plays a very prominent part in these cases. It should be mentioned that just as any sort of dust will irritate a nose inflamed by ragweed sensitization, so when the nasal mucous membrane is inflamed by the condition described in this paper, it often follows that any sort of dust will precipitate increased irritability and sneezing.

Observation of these cases has convinced me that many instances of so-called colds are mild cases of sensitization with temporary blocking of the nares. When these cases are persistent, it would undoubtedly be worth while to have them tested for sensitizations.

The literature upon this subject is scanty. In addition to the general articles upon clinical anaphylaxis by Walker and Cooke, there are scattered references to these cases. A few of them are noted below.

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