INTRINSIC ASTHMA*

FRANCIS M. RACKEMANN

Physician, Massachusetts General Hospital
Lecturer, Harvard Medical School

IN the beginning all *was* allergy that wheezed, and if the methods peculiar to allergy could not reveal the cause, these methods were deemed faulty. It was recognized, however, that the simple allergic process could be aggravated and continued by secondary infections. Still later, primary infections came to be regarded as the cause of asthma—particularly when patients were found to have no trouble except at the time of a new head cold. They were said to have "bacterial allergy."

More recently chronic focal infections, as in teeth and sinuses, have been recognized as quite sufficient to explain chronic asthma.

The study of end results has led to the study of the clinical classification of asthmatic patients. The fact that these classifications, made by different workers, are all a little different, and that classifications made by the same worker at different times are also different indicates that no classification is really satisfactory. Within the past year or two, however, it has been possible to develop a simple classification of asthma which has been proved to be of considerable practical value in the clinic. The age of onset appears to be of real importance. On the one hand there are many patients whose asthma begins in childhood or in the teen ages and is evidently related quite closely to changes in season or environment. A careful history shows that the asthma comes and goes in certain places or occurs only at certain times of the year or, more rarely, depends upon the eating of certain foods. Allergy seems to be a satisfactory explanation for the cause of trouble and the diagnosis of this depends upon the history. Skin tests are helpful, but when one finds many positive skin tests with no history to go with them, and when the patient knows well of his or her sensitiveness to cats, for example, but still has no skin test to cat hair extract, one has to recognize that the skin tests have their limitations.

* Abstract of presentation February 6, 1947 at Stated Meeting of The New York Academy of Medicine.

The prognosis in this early allergic group is good. A goodly number of these young people have outgrown their asthma entirely, and in the others their freedom from asthma depends upon their success in avoiding the exciting agent or perhaps in being protected against it by desensitization. In this group of simple allergic asthma, the problem is not too difficult and the mechanism is reasonably clear.

"*Asthmatic Bronchitis.*" In some of these young people the asthma occurs only with new colds and one can show quite often that when the family dog or the feather pillows are removed then new colds are no longer accompanied by wheeze. In this way one can show that the disturbance has two factors; the new cold to precipitate the attack and at the same time to lower the threshold to make a slight allergy effective. The elements of infection and of allergy are both present and the treatment here has two objects. One is directed toward the basic allergy, the other toward the prevention of new colds, mostly by trying to improve the general condition of the patient. Vaccines may be helpful.

Vasomotor Rhinitis Leads to Asthma. There is a special group of these young people in which the symptoms are so characteristic and so severe that the group seems to constitute almost a special disease entity. Here are people, mostly women, who in their middle twenties develop a chronic vasomotor rhinitis which this time is severe and persists. It bears no relation whatever to changes in season or in environment, or to food. All skin tests are negative. The symptoms do not respond to treatment. After two or three years a wheeze—asthma—is added to the picture and like the nasal symptoms this wheeze is persistent and soon it becomes severe. A number of these young women have died in an attack of violent asthma and at autopsy have shown the typical sticky plugs which occlude all the bronchi. A report of these special cases is in preparation.

* * * * * *

The older group of asthmatics is of great practical importance, and it is more interesting if only because we do not know so much about it. In times past I have called the asthma in these cases "intrinsic," and for the reason that the clinical history shows that whatever the cause of trouble, it is something which the patient carries with him through all seasons and in all places, including the hospital ward. Environmental factors as well as specific foods play no part. One can anticipate, and later show that all skin tests are negative.

The causes of trouble in these intrinsic cases are numerous. "*Bacterial allergy*"—a sensitiveness to some particular organism or to the products of its growth in the body—is a theory easily suggested by the findings in the extrinsic group. Unfortunately, however, bacterial allergy can not be demonstrated by skin tests which ought to show a typical wheal and erythema reaction. It is true that vaccines and toxins will produce red inflammatory reactions appearing in 24 hours, but such reactions are not specific. One can obtain them with similar vaccines and toxins made with the cultures from other sources beside the patient himself.

"*Depletion*" was described by me last year;[1] a broad term which indicated that the asthma was due to a burden of somatic or psychic diseases, or perhaps by both factors together. Selye's[2] Adaptation Syndrome with the alarm proper, including the shock and counter shock stages, followed by resistance and finally exhaustion, appears to fit fairly well. The point is that treatment of the patient as a whole without too much attention to his asthma has brought good results.

"*Polypoid Sinusitis with Asthma*" has appeared to include a particularly difficult group of patients whose asthma is closely associated with lesions of the nose and sinuses. Further study confirms the early impression that the nasal lesions are part of the picture and not a cause of it. In the first place, more careful examination will show that turgescence of the nasal membrane, or thickening of the sinus linings is almost universal in asthma, and secondly, the end results do not show that patients with more obvious lesions behave any differently in the long run from those whose nose is relatively clear.

Emphysema occurs as a part of every asthmatic attack, but the acute process is reversible. There is, however, a special group of cases whose emphysema is primary. Why or how it develops is quite unknown. The symptoms are much like those of asthma with one interesting exception. In emphysema the nights are good—"emphysema sleeps well." In asthma, however, the nights are bad. The distinction is simple and often useful.

Finally, *Tumors and foreign bodies* must never be forgotten for they, too, can simulate all the symptoms of "asthma."

* * * * * *

Such a classification is useful in the clinic, as said. Still, however, it does not reveal the cause of asthma.

My father was a lawyer. He asked me one day, "Don't you ever

cure your patients?"—"If you do, why don't you find out how you did it?" I have been trying ever since to find the answer to that question.

Studies of end results should be helpful. Gross figures for end results in Intrinsic Asthma, arranged according to the age and decade of onset show that 20 per cent of the patients are "cured" and this figure applies roughly to all the age groups. Improved are 24 per cent and unimproved only 8 per cent. Deaths from asthma itself occurred in 13 per cent, but the figure is higher for the younger groups, just as deaths from causes other than asthma are higher for the older groups. These gross figures, however, do not mean too much. Whereas the number of cases is large in the clinical sense, it is still too small for statistical purposes.

Special study of the "cured" cases reveals a number of interesting points.

The reasons for cure, appraised partly by the patient and partly by the family doctor, vary widely. In several cases it was our treatment with vaccines, usually in combination with potassium iodide, together with protective measures, including ephedrine and adrenalin, which started the patient in the right direction. The list, however, includes other statements. Asthma disappeared when divorce was arranged; it cleared when the menopause was finally completed; when the obesity was treated; and then in other cases it was simple directions about decent living which were of great value. The woman was always tired; her diet was poorly arranged; life was hectic; emotions were near the surface; and when these things were cleared, her asthma disappeared. In other patients, and in men more than women, it was the removal of a focus of infection which seemed to do the trick. The extraction of abscessed teeth has, in certain cases, been all that was required to change the patient from a hopeless invalid to a reasonably healthy and useful person.

Sinus operations are always interesting, and the tabulation shows that in a few cases sinus surgery was in fact followed by a "cure" (in quotation marks). On the other hand, the tabulation shows also that in a larger number of cases it was the sinus operation made originally to relieve a chronic infection, perhaps with polyp formation, which precipitated the development of severe asthma. Sinus surgery still remains as a difficult and very troublesome problem.

In certain instances the "cure" which persisted, perhaps for as long as

ten years, was followed by a recurrence of asthma later and then after a time the state of cure returned again. This fact gives strong support to the idea that asthma depends upon a disturbance of some sort which is fundamental and which is always present. These patients have a "weak spot" which is asthma, and this "weak spot" flares under provocations of all sorts including allergy as one of the precipitating factors.

As this clinical study goes on it begins to look as though asthma is a disease and not merely a symptom. Whether this narrower concept will make us less ready to look for special causes in certain groups of cases, and so, perhaps, will make us miss something, or whether on the other hand it is proper to let our classification apply only to the exciting factors, and so to encourage the belief that asthma in the "young lady" is the same disease as asthma in the "old gentleman," is still doubtful. Surely it is hard to believe that the wheeze which comes to the young school girl for a day or two in the middle of the ragweed season is the same disease as that which develops suddenly in the tired business man or in the harassed housewife and pushes them down to the depths of depletion and despair.

The problem is still wide open: the approach to it is not at all clear.

REFERENCES

1. Rackemann, F. M. Depletion in asthma, *J. Allergy*, 1945, *16*:136.
2. Selye, H. The alarm reaction, in *Cyclopedia of Medicine, Surgery and Specialties*, Philadelphia, F. A. Davis Co., 1940. Selye, H. General adaptation syndrome and the diseases of adaptation, *J. Allergy*, 1946, *17*:231.