CHRONIC URTICARIA ASSOCIATED WITH HYPOCHLORHYDRIA OR ACHLORHYDRIA*

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The association of urticaria with low gastric acidity has been previously recognized, but too infrequently utilized for the benefit of the patient. Hajos1,2, in a study of chronic urticaria, found the hydrochloric acid content of the stomach to be absent in 65 per cent of the patients tested and lowered in 30 per cent; favorable results were obtained by him with the use of hydrochloric acid and histamine in the treatment of urticaria. Bray3 suggested hydrochloric acid as a form of therapy in allergy, using large doses over long periods of time. It had been postulated by various writers3,4 that, with the absence of hydrochloric acid in the stomach, there might be absorption of incompletely split protein, which could possibly account for sensitivity reactions in patients with urticaria, asthma, and in some others with angioneurotic edema and certain forms of eczema.

During the past fifteen years we have observed many patients with chronic urticaria. Some had had urticaria for several years and had consulted us for treatment for arthritis. They usually complained of gas, abdominal distention, "indigestion" and abdominal discomfort. Their first thought was that they had had too much acid and the usual array of alkalis being handy, they had taken one or more doses of various alkalis after meals. They also complained of fatigue, of being mentally dull, and as they expressed it, they "felt run down". The "run down" feeling may be accounted for by the fact that, without free hydrochloric acid in the stomach, the patient does not absorb Vitamin B, and thus develops a B avitaminosis. Many had seen several physicians and had had many tests, including allergy. A great many had also had various forms of treatment, including periods of rest, sedation, elimination diets, intravenous calcium, alkalis, colonic irrigations, etc. In spite of the galaxy of tests, it is surprising that so few had had a gastric analysis.

MATERIALS AND METHODS

A test meal of 200 c.c. of 7 per cent ethyl alcohol was used. The nasal passage is anesthetized and a small Levine or Weiss tube is passed through the nose into the stomach. A fasting specimen is taken and further specimens every fifteen minutes for one hour after the alcohol meal is given, and every thirty minutes for the next hour or longer if the peak is not passed. If there is no free hydrochloric acid, histamine stimulation is used to determine if it is a true or relative achlorhydria. The patients included in this study had urticaria of long standing, six months or more, and the cause of the urticaria could not be determined. Those classed as

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hypochlorhydria had less than 20 degrees of free hydrochloric acid in any specimen. Dilute hydrochloric acid in liquid or capsule form was administered to those patients with achlorhydria or hypochlorhydria. The largest dose was given with the largest meal. Acute urticaria is not included in this study. The following case report is illustrative of the cases under discussion.

H. C., a male, age 35, was first seen in 1937. His chief complaint was urticaria of two years' duration. He had been seen by an allergist and several internists. He had had a complete gastrointestinal x-ray study, including colon and gallbladder, also cultures of nose and throat and feces, blood chemistries, etc., and x-ray of all teeth. The allergist had performed the usual series of tests, and obtained reactions to certain foods. He had eliminated all the foods suggested by the allergist, was on sedatives, tonics, alkalis, etc., all without result. His internist thought the urticaria might be due to business tension and advised him to go to Florida for a month's rest, again without any result, in fact he seemed to be worse while in Florida. One of us (W. B. R.) saw him shortly after his return from Florida and at that time there was urticaria involving the entire body with occasional angioneurotic edema of the lips. The general physical examination was normal throughout. The gastric analysis (the only test performed) showed: No free hydrochloric acid, highest total acidity—10 degrees. He was started on dilute hydrochloric acid and within a few days his urticaria began to lessen and within a month had almost disappeared except for an occasional mild attack of no particular consequence. At intervals he had discontinued the acid and after a short time the urticaria returned, but on resuming the acid the urticaria again disappeared. This has continued for thirteen years with almost complete relief from his urticaria.

**Analysis of Forty Cases**

The patients with achlorhydria obtained the best results. Twenty-two, or 55 per cent, had an absence of free hydrochloric acid. Eighteen, or 82 per cent, in this group were almost completely relieved. Two, or 9 per cent, were partially relieved, that is, there were times when they were symptom-free and at other times the symptoms were less severe. These patients were much more comfortable than before beginning the dilute hydrochloric acid. Eight, or 20 per cent, had hypochlorhydria and four, or 50 per cent of the eight obtained almost complete relief. Two, or 25 per cent, obtained partial relief. In the forty cases studied, twenty-two, or 55 per cent, were almost completely relieved and four, or 10 per cent, obtained partial relief, making a total of 65 per cent that obtained sufficient relief to make these patients comfortable, whereas they had been unable to obtain relief from any other form of treatment. This, we believe, is well worthwhile.

**Discussion**

When a patient presents the symptoms of flatulence, gas, indigestion, fatigue, mental dullness, etc., without definite pain and with a history of obtaining only partial relief from alkalis, one should suspect either a hypochlorhydria or achlorhydria. These patients frequently have had gallbladder and gastrointestinal
x-ray series with negative or, at the most, minor findings. Because of the absence of x-ray evidence of organic disease, they are told they have nothing wrong, that their symptoms are due to nervous tension, etc., or that they have a gastrointestinal allergy. In an effort to obtain relief they go from physician to physician. X-rays and tests are repeated and still their symptoms continue. In our experience it appears that the symptoms of hypochlorhydria and achlorhydria are not sufficiently stressed and are too infrequently recognized. It also appears that a gastric analysis is not done as often as it is indicated and not very often in the average practitioner's office. Many complicated laboratory procedures are done while a fractional gastric analysis, a comparatively simple procedure, is neglected. We cannot account for this neglect unless it is the patient's objection to the passing of the tube and the physician's failure to insist upon it because of his lack of knowledge of the proper technic. We think that more care should be taken in passing the tube, so that one does not frighten or upset the patient to the extent that they will always think and speak of it as a horrible experience. If one observes some attempts to pass a tube one can understand why the patient might object to having the test done, and perhaps why some physicians do not like to do it. It may seem academic to discuss such a simple process as passing a tube, but there is a real need for a better appreciation of what a proper technic can mean to a patient. We can recall many patients who at first objected to having a gastric analysis because some friend had referred to her own test as a "horrible experience". The nasal passage should be anesthetized using a nasal applicator, first being careful to express any excess material. A small Levine or Weiss tube should be used and it should not be forced. It should be held lightly between the thumb and index finger merely as a guide. If the patient begins to cough and wheeze, the tube should be withdrawn a short distance, the patient asked to breathe deeply through the mouth, the tube passed gently, moving only a short distance each time the patient swallows. If the tube is held as above described one can feel the tug as it slips down the esophagus, and if this tug is absent it is a sign the tube is curling up somewhere along the passage. If the patient has difficulty, one should not try to force the tube down. You must take your time and if you are careful you can always pass the tube. At times it may be necessary to give the patient one or two swallows of water. This does not seriously affect the analysis and may save the physician considerable trouble and the patient a great deal of discomfort. In twenty years experience, and in passing hundreds of tubes, we have failed only once and this patient would not let us try.

It is not not our intention to suggest that all patients with chronic urticaria have hypo- or achlorhydria, but we do believe that it is sufficiently frequent to warrant a gastric analysis of all these patients. Conversely, it does not hold that everyone with hypo- or achlorhydria develops urticaria and we do not know why some develop urticaria while others do not. There are a great many other symptoms produced by hypo- or achlorhydria that one should recognize if one is observant. We would be doing a service to our patients if more gastric analyses were done.
Conclusions
1. Chronic urticaria is frequently associated with hypo- or achlorhydria.
2. A gastric analysis is a simple office procedure and should be done more often.
3. The case report included is a typical example of cases observed by us.
4. Our cases were those that had been proven not to be due to allergy or any other known cause and were usually classed as chronic urticaria of unknown origin.

REFERENCES

Discussion
Dr. Samuel Berger (Cleveland, Ohio):—The authors present an interesting observation concerning the relationship of hypo- or achlorhydria in the production of chronic urticaria.

In achlorhydria we may presume or presuppose the presence of an abnormal gastric mucosa secreting an insufficiency of hydrochloric acid, and there may be a complete absence not only of hydrochloric acid but also of pepsin; thus proper initiation of the digestion of protein fails to take place; therefore incompletely split proteins or foreign proteins enter the circulation and become allergens in previously sensitized individuals, causing the release of histamine or a comparable substance which can produce wheals.

The gastroenterologist finds hypo- or achlorhydria frequently, but the presence of chronic urticaria rather rarely. This is very fortunate for these achlorhydries to be spared that most annoying and distressing condition. It is equally fortunate for the gastroenterologist or internist to be spared the embarrassment of failure to relieve this very trying malady not only after the administration of adequate amounts of hydrochloric acid but even after having tried everything known, both externally and internally.

In completely and well-studied instances of chronic urticaria, there still remains an undetermined or X factor, related probably to the central nervous system, a possible sympathetic imbalance. I cite the following example: A very prominent and very active attorney, about sixty years of age, had a total carcinoma of the stomach. Shortly thereafter he developed urticaria, which became persistent and extremely troublesome, for more than a year.

I have known him for twenty years and I have known that he had a complete achlorhydria and an atrophic gastritis, yet not until, and at no time before, his gastrectomy did he develop urticaria. The disturbed emotional state, to say the least, contributed to the mechanism which resulted in chronic urticaria.

All of us see subtotal or total gastrectomies, with hypo- or achlorhydria, but chronic urticaria has not been noted as a feature.

Hypo- and achlorhydria are extremely common, especially in the aged, but, again, fortunately, chronic urticaria is infrequent. Further evidence is needed to
prove a causal relationship of hypo- or achlorhydria in the production of chronic urticaria.

Dr. Harry M. Eberhard (Philadelphia, Pa.):—In my office we see many cases of achlorhydria and hypochlorhydria and have noted a great number that have associated chronic urticaria. I have been impressed that in a great number of cases the average man in general practice fails to do a fractional gastric analysis or to refer the patient to someone who would do it for him. As Dr. Rawls has stated, unless a gastric analysis is done one cannot expect much success. Of note, it has been my experience that when many patients have come to my office complaining of "burning in the stomach" no free hydrochloric acid was noted and frequently the total acidity had been extremely low. These patients had been given bicarbonate of soda over a long period of time, which of course was contraindicated and in many cases had made the patient distinctly worse. I would like to add that when we see a patient with either achlorhydria or hypochlorhydria that is not histamine refractory we always check the concentration of rennet and pepsin and find it invaluable in directing treatment.

May I compliment Dr. Rawls for presenting this very valuable paper.

Dr. William B. Rawls (New York, N. Y.):—I should like to say in my closing remarks that we did not wish to suggest that all patients with urticaria would have an absence of hydrochloric acid or have a hypochlorhydria, but that we did wish to emphasize that every patient who has a chronic urticaria should have a gastric analysis, because we found 65 per cent or over of our patients with chronic urticaria did have a hypochlorhydria or achlorhydria and that 65 per cent of this group obtained relief when given hydrochloric acid.

We all know that we have a lot of hypochlorhydrias or achlorhydrias, many of whom do not have urticaria, but they have the symptoms as I suggested above. I should like to emphasize once again that a large percentage of these people do have hypochlorhydria or achlorhydria, and when you give hydrochloric acid, 65 per cent get relief and this in patients that have made the rounds for several years, in my opinion, is well worthwhile.