A Food Allergy Study Utilizing the EAV Acupuncture Technique

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Abstract: Six diagnostic measures were performed on 30 volunteers. Five of the six diagnostic measures are currently utilized procedures for allergy, namely history and food challenge, skin, RAST, and IgE tests. The sixth and new method is based upon Electroacupuncture According to Voll (EAV). Results showed that the EAV test evidences a high degree of compatibility with the other five, particularly the food challenge test. As a new, non-invasive but sensitive test, it was found to be quite promising.

IT IS WIDELY recognized that most of the diagnostic tools available for identifying food allergy are not reliable. Draper refers to a number of workers who reported on the unreliability of skin tests in diagnosing food allergy.1 The standard and most reliable method of testing for food allergy has been to eliminate food from the diet and then to rechallenge, observing for the reinduction of symptoms. There is some controversy regarding the length of time that a food should be eliminated from the diet before rechallenging. Rowe recommended total elimination of a food for at least three weeks.2 He observed that sometimes symptoms are not reproduced when the food is first reintroduced into the diet. Rinkel et al. found four to ten days to be the optimal time to rechallenge following total elimination of the food being tested.3 To establish a diagnosis of food allergy, they emphasize the necessity of repeating this type of testing on there different occasions and require that one observe repetition of similar symptoms produced on each occasion when the testing is properly done. Bahna recommends an approach utilizing some features of each of the above.4 Rinkel et al. describe two types of food allergy: fixed and cyclic. The latter is the most common form of food sensitivity. They observed that skin testing correlated positively with food sensitivity only 25 percent of the time when tested clinically. Bock reports some usefulness of the prick test in screening for food allergy in four of 14 food antigens tested.5 Of the 54 positive prick or intradermal tests to peanut, only 12 has a clinical response during a double-blind food challenge with peanut. Bahna indicates that skin testing for milk allergy is unreliable. Galant et al. classify food allergy as immediate of delayed, and have noted a positive correlation of the immediate allergy with skin tests, as well as with allergen-induced leukocyte histamine release, radio-immunodiffusion test and the skin window test.6 However, individuals with delayed-onset variety of food sensitivity seldom had positive skin tests, the skin window was never positive and the leukocyte histamine release test was positive only slightly more often that in the control patient.

One of the principal shortcomings of most allergy tests, with the exception of the RAST (Radio-Immunodiffusion Test), is that the procedures require that the patient come into contact with the allergen. Thus, there is a risk factor involved for the individual, since the body's reaction is unpredictable. This diagnostic difficulty is most pronounced regarding food allergy because in addition to the body's reaction which evokes immunological pathogenesis. Several papers addressing this subject classify the former as food allergy and the latter as food intolerance or sensitivity.7-10 A simple and more objective method of identifying specific food allergies, including intolerance, is therefore needed.

The EAV Instrument

The electroacupuncture diagnostic method utilizes a galvanometer designed to measure the skin's electrical activity at designated acupuncture points. Electroacupuncture has been used in Europe for nearly thirty years to determine the abnormality, pathogenesis or energy imbalance of the body.11,12 Allergy is considered a pathogenic and measurable entity.13

The electronic device designed by Dr. Reinhold Voll of Germany is a 10-micro ampere meter calibrated from 0-100. (The EMF = 1.5v). A person holds the negative electrode in one hand. The probe, which constitutes the positive electrode, is used to press upon the selected acupuncture point. If the measurement reads “50”, it indicates that the organ or system associated with that particular acupuncture point is free of pathological problems. At the “50” reading on the scale, the skin resistance between the electrodes is approximately 100,000 ohms.

If the initially measured maximum value decreases and settles at a lower value, it is call an “indicator drop”. Voll considers the indicator drop to be the most important criteria for determining disturbance of organ function. It is hypothesized that when function of the organ or a system is disturbed, the bioelectric resistance of the organ or system is unable to maintain a fixed resistance with respect to the incoming current. As a result, new equilibrium is established at a lower reading level.14

The individual with allergy should show an indicator drop when the allergic acupuncture points are being measured. There are four specific allergy measurement points (MP) on the hand, as illustrated in Fig. 1.15 Loci A-

2 constitutes the control point. This point should produce an indicator drop if the person has any type of allergy. The other three loci are hypothesized to correspond with the following:

- Loci A-1: Allergy with respect to the skin of the upper portions of the body, including the neck, upper extremities, and with respect to the organs in the abdomen and in the minor pelvis, or allergic reactions due to food.
- Loci A-3: Allergy with respect to the skin of the upper portions of the body, including the neck, upper extremities, and with respect to the organs in the chest and neck, or allergic reactions due to inhalants.
- Loci A-4: Allergy with respect to the scalp, the organs in the head, oral cavity, the nasal and paranasal sinuses.

In addition, the EAV technique uses actual food items to determine allergic reactions to these particular items. If a particular food item is placed on an aluminum plate, which is attached to the galvanometer, and the indicator drops, this is said to demonstrate the presence of allergy to the food item. If a diluted form of the food extract (resembling a homeopathic preparation) is placed on the aluminum plate, and equilibrium of “50” should be reestablished.16 This method can be used to test for other allergic substances such as inhalants. If the validity of the electrodiagnostic method can be established, it offers an attractive alternative to other diagnostic methods. It has the advantage of eliminating actual contact between the patient and the allergen, thus removing the risk element. In addition, it offers a diagnostic method that may realize time and cost savings. With this purpose in mind, a study to assess the validity of the electroacupuncture diagnostic method or Electroacupuncture According to Voll (EAV) in diagnosing allergy and intolerance was conducted from January to July 1982.

Materials and Methods

A total of 30 healthy adults volunteered for this study, and with 27 of these individuals completing all the requirements. Their ages ranged from 16-69 years, with an average age of 39 for the group. Fourteen men and sixteen women were included in this group. Through interviews, a comprehensive allergy history and general medical information were obtained. This data was then sealed, assuring the diagnosticians performance under “blind” conditions.

Four senior EAV diagnosticians were assigned to perform EAV tests. Each diagnostician had at least six months of training. EAV readings required the establishment of a baseline level of resistance. To obtain this reading, the participant holds a brass electrode in each hand. If the reading registers between 80-86, the individual is determined to be “in balance”. Dr. Voll considers that this reading indicates the energy balance and energy level of the entire body.17 Subjects with readings below 70 and above 90 were disqualified from the study. These measurements were followed by measurement of the control point A-2; then A-1 for food allergy and A-3 for inhalant allergy (see Fig.1). Measurements were obtained from the right and left sides of the body.

Specific food and inhalant items were then used to test for allergic response to these particular substances. Food items of milk, eggs, and rice were placed in unlabeled, sealed containers. Inhalant substances of house dust, red top (a genus of grass), and hormodendrum (a genus of milk), were sealed in similar fashion. The food extracts contained phenol and the inhalant extracts contained glycerin as preservatives. Two placebo containers with saline and glycerin were added to the group of test containers. Blood samples were then drawn for analysis of immunological reaction, the IgE levels and RAST (Radio-Immunodiffusion Test). (IgE Analyses were conducted by the Dept. of Medicine Laboratory, University of Hawaii at Manoa, while RAST analyses were conducted through Accupath (Smith Kline Laboratories). The allergist in the research team using unlabeled allergen extracts performed skin tests.

During the following weeks, food challenge tests for milk, egg, and rice were carried out. EAV measurements were obtaining during the test and on the second and third weeks after the initial test. However, the time interval between the particular food intake and the EAV measurement taken was not recorded or standardized.

Evaluative Criteria

It is known that allergy tests do not yield results in absolute positive and negative terms.18 A subjective interpretation of findings is therefore necessary to distinguish between various possible degrees of individual response.

A. EAV Test. For evaluative purposes, the original EAV data (indicator drop readings) were divided into five grades as specified in Table 1. Each participant had two EAV tests: The initial and the follow-up. Based on the graduations received upon initial and final tests, each participant was evaluated as negative or positive as a whole. The criteria used to determine this were applied to a total of eight readings from each participant: the four points form the initial EAV test and four from the final. Since the readings have to be taken from the two allergy

points from each side of the body, for a negative diagnosis, all of the eight numbers must be in the range of Grade 0 to Grade 1. A negative diagnosis was also given if less than three of the numbers are Grade 2 or if just one qualifies as Grade 3 on one side. To be deemed positive, more than four numbers must be of Grade 2, or tow of Grade 3, or any Grade 4 combined with other grades above Grade 2.

B. RAST Test. The results of the RAST test were graded as follows:

GRADE	INTERPRETATION
0	Negative
1	Borderline
2	Weakly Positive
3	Moderately Positive
4	Strongly Positive

C. IgE Test. The IgE test findings were rated in accordance with the following:

GRADE	TITER
0	Less than 500
1	500-700
2	700-800
3	800-900
4	Above 900

D. Skin Test. The intracutaneous testing was done using a 5:1 serial dilution technique. Extracts of whole milk, whole eggs, and whole grain rice were used. These were aqueous food extracts purchased form Nollister-Stein Laboratory. Each food extract contained 500 pnu/ml and 0.4 percent phenol as a preservative n a solution containing 0.5 percent sodium chloride and 0.275 percent sodium bicarbonate. Approximately 0.01cc of the test material was injected intracutaneously which is sufficient to produce an elevated skin lesion 4 mm in diameter. After 10 minutes, this area was reexamined, and if the wheal area was greater than 5mm in diameter it was considered positive. The number 1 dilution is one-fifth the strength of the concentrate. Skin test grading was determined in the manner presented in Table 2.

E. History. The allergy/medical histories obtained form interviews with each participant yielded data on a range of symptoms, which, for evaluative purposes, were categorized as indicated in Table 3.

Results

Table 4 depicts the composite results (positive and negative) for 27 research participants as detected by case history and five of the successive tests: EAV, food challenge, skin, RAST, and IgE. Of the 27 cases, five were negative for all the allergens. Five cases had only one positive result among all 16 tests. Seventeen participants showed a minimum of two positive results. Table 5 shows the number of positive or negative cases for each test.

Results of the EAV test, in comparison with the other, are found in Table 6. As a whole, the EAV results correlated with the others on 220 points (70.5 percent), in the case of both positive and negative diagnoses. A total of 74 false positive and 18 false negative points were obtained, with 29.5 percent of the points thus not matching. When the EAV test results were examined relative to the other tests on an individual basis, it was found that there is a high level of correlation with the food challenge test (77.1 percent) and the allergy history (74.1 percent), with the RAST and skin tests matching the EAV test on 68.8 and 63 percent of the points respectively. This is shown in Table 7.

Tables 8 and 9 demonstrate comparative data between the skin test results and the history, food challenge, EAV and RAST tests. It can be seen from Table 8 that the skin test findings match the others on 237 points, or 75.7 percent of the time. Table 9 presents the breakdown of the skin test results compared individually with the other tests. The highest correlation is with the RAST, where 81.5 percent of the points were found to be in agreement. Further, the skin test data matched with the allergy histories for 75.3 percent of the points.

Tables 10 and 11 show the RAST test results in relation to those from the other diagnostic techniques. Some 225 matching points were found overall, representing 72.6 percent of the total. When the RAST results were

compared separately to the others, the highest correlation of matching was with the skin test, where 81.5 percent of the points were compatible. The history results were the next highest with 73.8 percent of the points matching. The EAV and food challenge tests with 68.8 and 65.2 percent matching followed this.

Table 12 delineates date from both IgE and RAST tests and contrasts the two. This table includes the 30 participants and their reactions to three food and three inhalant antigens. It shows 80 percent correlation between the two tests (24 out of 30), and thus 20 percent of the findings were in disagreement (6 out of 30). In fact, three cases with low titer if IgE had negative results for the six antigens tested by the RAST.

Discussion

These findings reconfirm the notion that there is no simple, reliable clinical test available for allergy diagnosis. It can be seen, however, that the EAV test demonstrates great sensitivity. The EAV results (see Table 4) showed virtually no positive findings when all the other tests were negative. When the EAV test evidenced positive results, at least one of the other allergy tests for the same individual showed the same results. In general, the EAV data obtained in this experiment demonstrate the highest degree of compatibility with the food challenge test, which is considered to be the most sensitive of the currently available diagnostic techniques for food allergy. In addition, the EAV results were comparable with both skin and RAST tests.

Over the course of this study, the researchers identified several environmental influences that should be carefully accounted for in future EAV research endeavors. The experience of the testers in performing EAV measurements, the status of the participants' health and dietary habits, the time of day EAV measurements are performed, and the location of the instrument itself are all significant factors which can effect the resultant EAV data. A basic study should be undertaken to establish a normal variation curve. In addition, standardizing the timing of the interval between EAV test and the intake of special test foods during the food challenge test requires further refinement. Improved control of these factors should serve to reduce baseline variation, and increase the test's sensitivity and specificity.

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