

MANAGEMENT OF THE ALLERGIC CHILD IN TURKEY

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Introduction

Allergy may be defined as an abnormal reaction in some portion of the body to substances from the outside environment. Some substances may be taken into the body through the nose and lungs (pollens, house dust, animal danders, etc.) by mouth (foods, drugs) or through the skin (by contact with woolen clothing, animals, insect bites, etc.).

The most common symptoms produced by allergy are hay fever, asthma, eczema, or perennial allergic rhinitis (PAR). An allergic person may have only one of these symptoms, such as hay fever, or he may suffer from one symptom at one period of life and a different symptom at a later period.

The tendency to become sensitized or allergic to some otherwise harmless substance is usually inherited. What one becomes sensitive to depends in part on what one is exposed to as well as the amount of such exposure. Thus a person who has inherited this tendency may become sensitive to cow's milk shortly after birth, or to dog hair at the age of six years after acquiring a dog. Through his life he may have new sensitivities as he undergoes new exposures.

Every country almost certainly has a number of persons with inherited allergic conditions. A study made in a pediatric clinic in Turkey revealed that 10.9 per cent of the patients attending the clinic had an allergic condition.¹ It has been estimated that there are about three million persons in Turkey who at one time in their lives have shown allergic symptoms caused by hypersensitivity to pollen or other allergens.

There are very few diseases in medicine which require as much cooperation between the physician, parent and patient as allergic conditions.

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In Turkey we lack basic information regarding the various steps in allergic reaction and management. Significant advances have been made during the past decade in the understanding of the etiology, conditioning and mediating factors in allergic disorders as well as in its clinical management.² The problem rests not only in the lack of allergic education of the parents and patients, but also in the education of the doctors in medical schools of the past, who, if conscious of the allergic problem, based their understanding on simplified concepts of the overall allergic problem. For instance, food is accepted by many doctors as the principal offending allergen; urticaria is one of the major accepted allergic symptoms; and liver the principal organ involved in this mechanism. Our aim in this paper is to give a quick outline of the management of the allergic reaction and show the problems we have encountered in our allergy clinic during the past four years.

Material and Methods

Initially in our clinic, we try to explain to the parents the basic mechanism of the allergic condition; likening it to what I call the glassflow mechanism. A biological glass represents an atopic person and shows certain characteristics (Figure 1). The glass is under the influence of two sets of factors; both inside and outside. The inside factors include the allergens (pollen, mold spores, house dust, animal danders, foods, drugs, etc.), infection, emotion, endocrine disturbance and exertion; the outside or precipitating factors, include the environmental factor (family, social), changes in climate, nonspecific factors of the air (odors, irritants, etc.). Figure 1B represents a patient who has both an emotional problem and hypersensitivity to certain allergens. These allergens may be any one of numerous pollens, mold spores, animal danders, food or drugs, or in any combination.

For example, if the allergen is a grass pollen that at a concentration of 50 in a cubic meter produces no symptoms in the patient, we can suppose simply that there is not enough concentration of the allergen to overflow the glass. Should the pollen count in the air reach a level of 100 or 200 (Figure 1C), the glass will overflow and the patient may well have an acute attack of asthma. As seen in Figure 1D, endocrine imbalance also may disturb the balanced allergic state. During puberty, pregnancy, after menopause, the allergic state of the patient may be disturbed.

Figure 1E represents infection. Frequently the asthmatic child develops an infection in the respiratory or other systems. In spite of the fact that the pollen count in the air is the same, he begins to show allergic symptoms. A sudden change in climate, temperature or humidity will also precipitate allergic symptoms in many patients (Figure 1F).^{3, 4} We have patients who have mentioned in their case histories that when the wind came from the north they began to wheeze.

We also have to prepare the parent to consider that the nonspecific factors of our area, irritants in the air, chimney smoke and smog, will aggravate, or bring on the allergic state. The patient's emotional state or the fact that he has overexerted are also important factors in precipitating allergic symptoms. Frequently the asthmatic child begins to show symptoms after he is tired from playing too strenuously. Among the outside precipitating factors, the family and social pressures are the most important. That emotional conflict in its many varied patterns may influence the clinical course, prognosis and treatment of an existing asthmatic condition should be appreciated and dealt with to some extent by all physicians treating this disease.

Management and Problems of the Allergic Child

Three basic principles in the control of allergic disease are the elimination of allergens, symptomatic therapy, and hyposensitization.

Elimination : As one might surmise from Figure 2, avoidance or removal of the allergen is ideal in all forms of allergic phenomena. Unfortunately this is frequently impossible though much can be gained by practical elimination procedures. Among the respiratory allergies, for example, the most significant etiologic agents are in the inhalant group of allergens such as house dust, pollens, mold spores, feathers and the danders from common household pets. All household pets must be eliminated from the immediate environment of any allergic child even in the absence of positive skin tests.

A much more difficult problem, however, is the elimination of potent allergens such as mold spores, pollen particles and house dust. Pollen surveys in Turkey are in their infancy. Ankara and the Ankara vicinity have been analyzed for pollen and mold spores only in the last three or four years⁵ and although there is a current work

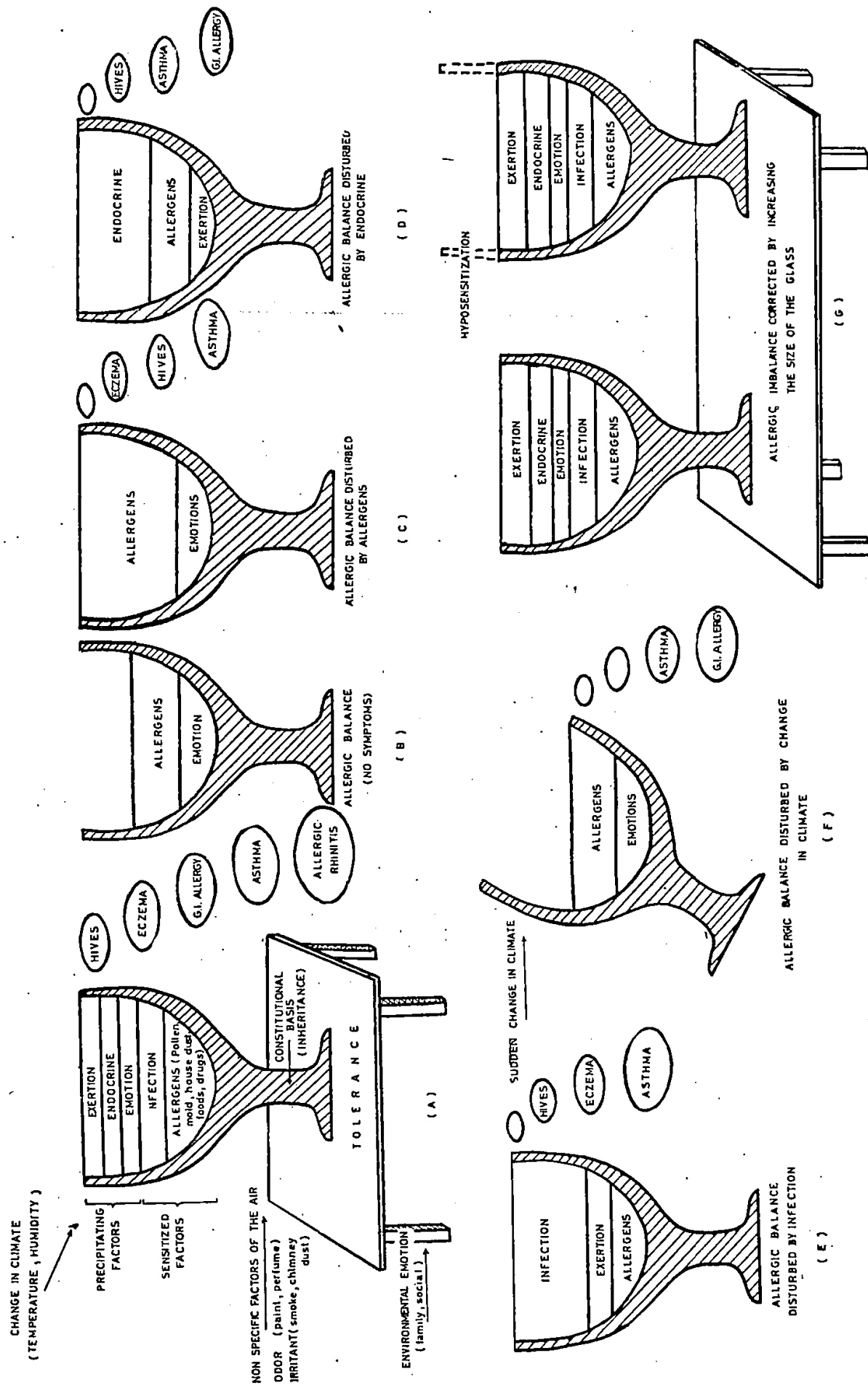


Figure 1. The biological glass representing the atopic person.

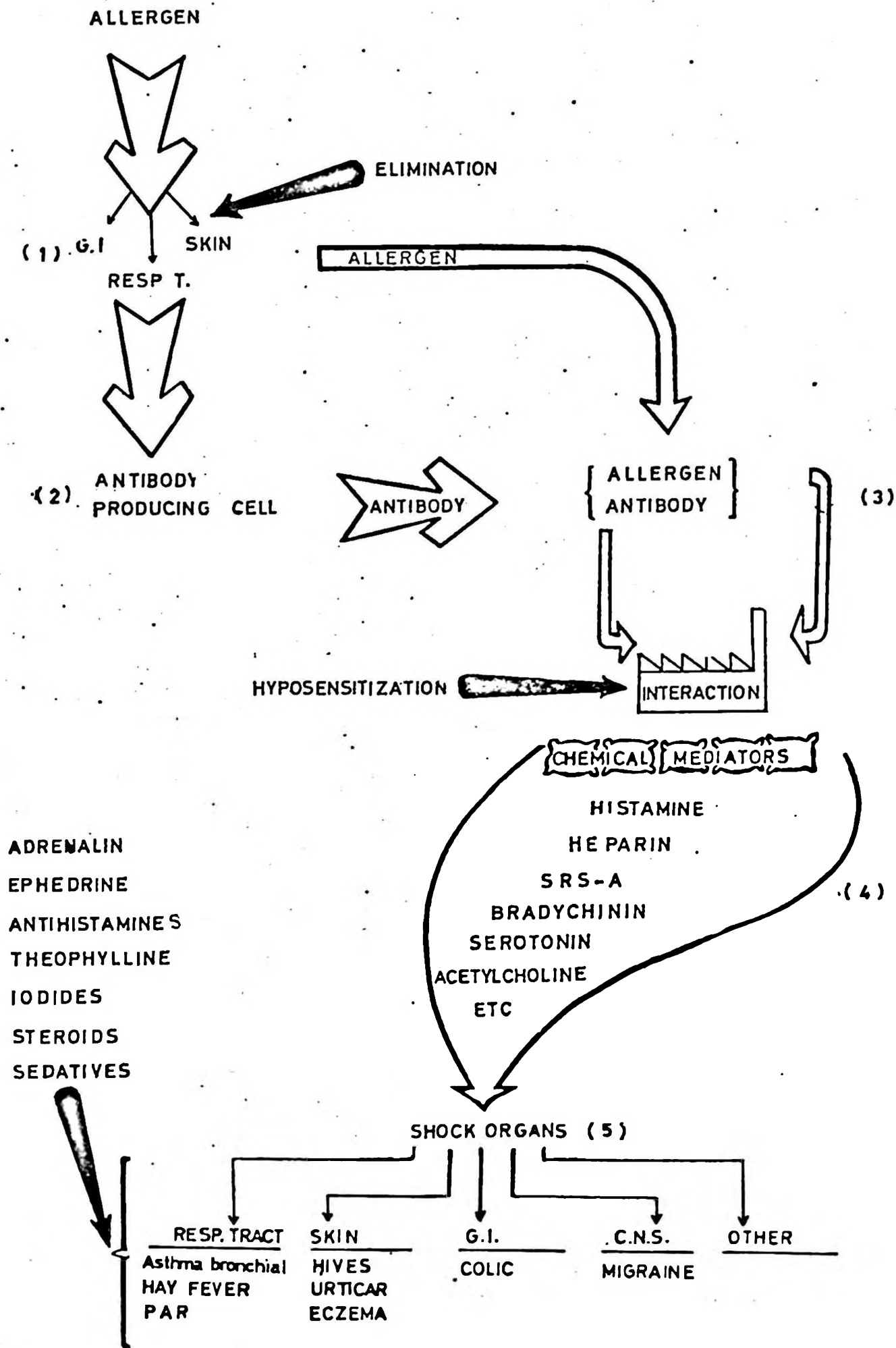


Figure 2. Diagram of the acute allergic mechanism.

on allergenic plants of the Istanbul area little further work has been done on the subject.⁶

Beside pollen and mold spores, nonspecific factors, smog and coal dust, are also major irritants in the larger cities in Turkey, especially in Ankara. The winter season is long, and shows many of the characteristics of an inland climate. Heating appliances generally burn soft coal. Although the government has recently issued regulations for apartment building heating systems, urging the use of fuel oil, or a filter in the chimney, it will be some time before coal dust ceases to be a major irritant.

Turkey, an agricultural country, has many farm animals, in addition to pets such as dogs and cats. Animal danders are prevalent even in cities, where transportation is carried out by horse carts, donkeys, etc. Even in Ankara, horse carts are a major form of transportation.

In controlling food allergies, it is difficult to regulate the dietary customs of the people in Turkey, especially in the villages where often they must eat what they find to eat. It is a hardship to ask them to maintain a specially balanced diet at home. Even in urban areas, the population has fixed dietary habits.

Symptomatic Therapy : Includes carefully selected medical or drug therapy and supportive treatment.

Drug Therapy : A balanced medical therapy is essential when a patient has overflowed the biological «glass». In this case, the aphorism «an ounce of prevention is worth a pound of cure» is true. The earlier the treatment, the better the results. A proper amount of bronchodilate such as ephedrine, with a barbiturate to control the stimulus must be initiated at the beginning of an acute attack of asthma. A physician can learn with each patient how much is needed early in the treatment to control an asthmatic attack. If the attack is a sudden one, aqueous adrenalin 1/1000 (0.1 - 0.25 mgm) should be given immediately.

Generally the child with cyanosis stops drinking and eating. Because of this, dehydration is more frequently encountered in infants and children than in adults.⁷ It is necessary to combat the dehydration in order to keep the secreted bronchial mucus loose. Iodide, as in potassium and sodium salt, is the best expectorant. Theophylline and aminophylline exert a direct dilating action on

bronchial muscles. The antihistamine drugs effectively combat histamine in the mucosa of the respiratory tract and in the skin.

If bacterial infection is present, adequate treatment for it should be given. If the infection is under control, and ephedrine, antihistamines and other medicines fail to block the attack within two or three days, the use of steroids should be considered. Nearly all children who have allergic disease may be benefited symptomatically by the use of steroids. The action of ACTH and other steroids is the same as long as the patient's adrenal glands can respond to stimulus. Steroids inhibit the formation of antibodies, modify histamine metabolism and act as anti-inflammatory agents. Before using steroids, one should always consider the contraindications and the untoward reactions of steroids.

The so-called tranquilizer drugs have been used in the treatment of some patients who have chronic or frequently recurrent allergic disorders. The type and pharmacologic action of various drugs used for allergic symptoms are shown in Table 1.

TABLE 1

	Bronchial muscle dilatating action	Bronchial mucosa	Nasal mucosa	Skin	Gastro- intestinal	Central nervous system
Theophylline	+	—	—	—	—	—
Iodide	—	+	+	—	—	—
Antihistamine	—	+	+	+	—	—
Adrenalin	+	+	+	+	+	—
Ephedrine						
Steroid	+	+	+	+	—	—
Atropine	+	+	+	—	—	—
Sedative	—	—	—	—	+	+

Since very few families have a family doctor, children with allergies are usually taken to the doctor late. Allergic children are prone to infection and once they have an infection, their allergic threshold is increased. Ankara has a long winter, the schools are crowded, and many people live in apartments. These social conditions lend themselves to infectious epidemics.

Supportive treatment for patients with semichronic conditions of asthma should consist of a therapeutic regimen geared toward maintenance of good nutrition,^a sound hygienic measures, construc-

tive work patterns, proper exercise, rest and a healthy emotional climate.

Clinical experience indicates rather clearly that the emotional factors contributing to certain psychosomatic disorders in Turkey are not negligible. Various types of emotional disorders are rather common in Turkey although they may not be adequately recognized or treated. Certain characteristics of personality conflicts commonly encountered in Turkey would lead one to consider that these conflicts play a rather important role in precipitating a considerable portion of the allergic conditions.⁹ ¹⁰ In brief, these intrapsychic conflicts are described as a continuous suppression of aggressive drives, as an accumulation of such drives due to many frustrations in child rearing. Children in Turkey are expected to be compliant, obedient and passive and expressions of aggression are punished or discouraged by various methods. Children are frustrated rather commonly particularly in the areas of autonomous activity and play. All of these necessarily lead to an increase of rage and anger which is suppressed systematically by the family and by social expectations. Such suppressed emotions seem often to be the precipitating or aggravating factors in allergic conditions.

Beside these fundamental conflicts, there are the over-indulgence, dependence-fostering, excessively worrying attitudes and ignorance of many of the parents, which also seem to contribute to an increase of the allergic state. Therefore, in the management of the allergic child, the psychological factors have to be considered seriously so that the child can be given opportunities for healthier expression of himself while undergoing medical treatment.

Hyposensitization : This is based on the blocking of the antigen and antibody interaction and prevents the production of the chemical mediators. The blocking antibodies of this hyposensitizing treatment interfere with the union of reagin and antigen by uniting with the antigen itself. The immunizing injection is usually given chiefly for inhalants, pollens, dusts, and molds. It is a method of increasing the tolerance of a sensitized patient for the causative allergens by a series of injections of such allergens in graduated doses.

The proper utilization of these techniques requires considerable training if good results are to be expected. Standard allergy texts describe this technique in detail. Mutual understanding and teamwork between the child's parents and the allergist are essential.

It is recognized that this treatment does not reduce the sensitizing antibody; it just increases the tolerance of a sensitized patient for the allergens (Figure 1G). It must be mentioned, however, that skin testing and hyposensitization when properly conceived and thoroughly utilized can produce significant beneficial results.

Results of skin testing always must be correlated with a careful allergic history and physical findings. Also, it must be remembered that the results of these tests are not always 100 per cent significant in their correlations and frequently serve only as valuable guideposts for therapy.

There are few allergy clinics in Turkey. Many patients from outside Ankara attempt to come for treatment. Since they must come twice weekly for skin testing and in the first stages of hyposensitization, the patients often find this too expensive and time-consuming. In addition, since only a small per cent of our patients have cars, bringing the patient to the clinic even within Ankara becomes a major problem. Only too frequently, the patient's family has failed to realize the exigencies of the program and the hardship and expense involved for the entire family. A by-product of these circumstances, unfortunately, is that most of our patients come from the prosperous and educated families in the major cities.

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