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ALLERGY AND ITS RELATION TO THE ORAL CAVITY

By AARON L. FRIEDENTHAL, '43

A SURPRISINGLY vast number of individuals are susceptible to reactions in varying degrees when brought in contact with some reagent. Some persons meet their nemesis in fields of clover or at hay making time. Others suffer punishment in the presence of horses and other animals, dust, metals, inks, drugs, and so on.

According to von Pirquet, allergy means an altered reaction of an individual to any substance, brought about by repeated acquaintance. Although the mechanism of allergy is not definitely understood, it is quite definite that two types exist. The first type may be looked upon as being influenced by heredity in that sensitivity may be readily acquired toward certain substances, generally of protein nature. In this type may be included asthma and hay fever. The other type of allergy is portrayed in the sensitivity of the victim to drugs and chemicals not necessarily of protein nature.

A person will not show an allergic manifestation when brought into contact with the substance in question for the first time. There is an incubation period, during which time sensitivity to the allergen develops so that, in some instances, a considerable period of time will elapse before hypersensitivity will be manifested.

The oral mucosa, together with the epithelium of the tongue, is closely related genetically, anatomically, and sympathetically to the cutaneous covering and it has not been until recent years that physicians and dentists have become fully aware of the allergic factors which may be involved in lesions of the mouth.

The most familiar clinical form of allergy observed is the localized swellings on the lips, tongue, buccal or sublingual surface, commonly referred to as hives. The urticarial lesion may vary in size and is usually caused by hypersensitivity to a food, although drugs and numerous other substances may produce the same effect.

Canker sores, or apthae involve another form of reaction noted in the oral mucosa. These vesicles occur singly or in groups, the most frequent locations being on the border of the tongue and in the labio-gingival region.

Frequently the allergic process does not present any definite symptoms, but is vague and may consist of a burning, tingling, or

itching of some part of the oral mucosa, or it may consist of such symptoms as a fetid breath or furred tongue.

The administration of any drug is not without some hidden danger. When administering a drug the dentist should take into consideration whether or not the patient has a personal or ancestral history of allergy. Allergy usually associates itself with allergy in that a person is generally allergic to more than one item, and further, is more susceptible to acquiring new allergy than is the normal individual. Care should thus be exercised in handling such individuals.

In the case of hypersensitivity to drugs, the reaction produced by the drug should in no way be related to either the pharmacologic or toxic action of the drug. As an example of this, we may take sodium perborate. The drug for a time may produce no allergic symptoms, but suddenly a form of "hairy tongue" may appear, the person having become sensitized. This hypersensitiveness may develop during treatment of the patient for Vincent's Infection, in which case the use of sodium perborate should be discontinued.

There is no drug which has yet been synthesized or found free in nature to which some person either now or in the future, will not be known to possess some cutaneous or mucosal hypersensitivity.

The allergic properties of some dentrifices and mouth washes have proven a real source of annoyance, if not an actual hazard to the well being of a large number of individuals.

Templeton and Lunsford reported six cases of Cheilitis and stomatitis from S. T. 37 toothpaste soon after it appeared on the market. Patch tests carried out with the toothpaste were positive in all six cases. Further patch tests were carried out with S. T. 37 solution and were positive in but two of the individuals. This apparent discrepancy may be explained in that the reaction in four of the individuals was probably dependent upon a combination of the hexylresorcinol with some other ingredient or ingredients in the toothpaste, or was due to a chemical other than S. T. 37 in the preparation.

L. G. Beinhauer also reported hypersensitivity due to ingredients contained in two popular brands of toothpaste, namely Kolynos and Ipana. The offending preparation was determined in each case after numerous patch tests made with the various cosmetics and other items with which the patient came into contact. In the case of Kolynos the allergen was pinned down to thymol,

all the other individual ingredients of the toothpaste giving a negative reaction.

The following ingredients of dentifrices are included in the list of possible allergens by Louis Tuft, Chief of Clinical Allergy and Applied Immunology, Temple University Hospital, Philadelphia: The basic substances are chalk, calcium phosphate, orris root, kieselguhr, kaolin, magnesium carbonate, cuttle fish bone, pumice, sodium bicarbonate, borax, cream of tartar, and powdered soap. Flavoring agents in dentifrices which might cause allergy were listed as oils of anise, bergamot, caraway, cassia, clove, cinnamon, eucalyptus, geranium, lavender, lemon, neroli, nutmeg, orange, peppermint, spearmint, rose, thymol, tincture of myrrh, and menthol.

As further indication of the importance of allergy in its relation to dentistry, the major problem of the reaction of the oral mucosa to metallic restorative substances and to artificial denture materials may be mentioned here.

Traub and Holmes reported a localized dermatitis extending over the chin and portions of the upper part of the chest which was caused by the sensitivity of the individual to the mercury in amalgam fillings.

Lain also reported two cases of mercury hypersensitivity in a mother and daughter, the reaction being brought on by amalgam fillings. The striking thing about Lain's observations was that the dermatitis around the mouth and chin corresponded markedly to that found on the dentists fingers.

Stomatitis, also known as "sore mouth," due to dentures is not uncommon. Such a condition results from the hypersensitivity of the individual to one or more of the chemicals, or combination of chemicals, making up the denture rubber. This condition may frequently be alleviated by curing the denture further in order to prevent dissolution of any of its chemical constituents in the mouth. It further may be stated that the condition of "sore mouth" rarely appears when vulcanite is cured for twelve to twenty-four hours.

Some of the base plate substitutes for rubber contain camphor, resinoids, formaldehyde, or phenol, any one of which is capable of causing a severe stomatitis in the hypersensitive individual which may involve the entire mouth in the presence of a full denture.

However, the cause of sore mouth is not always the denture itself, but rather the antiseptic solution into which it is placed over night and which is not adequately rinsed off in the morning.

Dental or paradental foci of infection, active or quiescent, are known to produce allergic effects in various parts of the body. The organisms or their products in the focus, (which would include apical abscesses about vital teeth, pulpless teeth, unerupted deciduous and permanent teeth, root fragments and gingival infections) pass into the blood stream to various parts of the body such as the joints and nasal sinuses and, in these localities, set up a sensitivity to further invasion generally by the same organism or its products. Spectacular relief from rheumatism, asthma, urticaria, or migraine sometimes follows the removal of an abscess. Frequently the evident focal source is removed without resulting in relief of the allergic manifestation.

Allergy may be a contributing factor in the cause of periodontoclasia. The results of the work done by Healy, Daley and Sweet demonstrated that in eighty-six cases of periodontoclasia, forty-six of the patients revealed the incidence of some form of allergy. These workers also brought forth evidence showing that in twenty-seven cases of acute, subacute, and chronic gingivitis associated with the latter mouths of pregnancy, sixteen of the patients gave history of known allergy.

Allergy also has its role in the etiology of orthodontic deformity. Malformation of the jaws, resulting in malocclusion of the teeth, is a very common finding in patients with allergy. The size and general form of the jaws of an individual is determined by an hereditary pattern. The degree to which the jaws will conform to this pattern depends upon environment.

During the first years of life all structures of the body are growing rapidly, and it is during these early years that deformity takes place. The studies of Todd, Cohen and Broadbent brought out the significant fact that 75% of children treated for allergy have gross orthodontic deformity.

In these children who have nasal symptoms during the first year of life, there is retarded growth in all three dimensions of the jaws. Those whose symptoms appear during the second year have deformities to a less marked degree, and especially in the lateral expansion of the hard palate; there is only a slight diminution of growth of the jaws in those children whose symptoms appear during the fifth and sixth years.

In this report I have attempted to emphasize the importance of allergy in its dental aspects. During recent years there has been a continued increase in the amount of research and knowledge

gained in this field. However, much more must be done before a true understanding of allergy and its definite control may be gained.

BIBLIOGRAPHY

1. Lesions of the Oral Cavity Caused by Physical and Physico-chemical Factors.....*E. S. Lain*
Archives of Dermatology and Syphilology, 22:295, February 1940.
2. Allergy and Its Reaction to Dentistry.....*A. M. Fuchs*
Oral Hygiene, Vol. 30, No. 8, pp. 113-117, February, 1940
3. Mild and Masked Allergic Complaints..... *W. C. Spain*
The Health Examiner, Vol. 5, No. 2:5, May 1935.
4. The Toothbrush, Its Use and Abuse.....*I. Hirschfeld*
pp. 465-467
5. Cheilitis and Stomatitis from S. T. 37 Toothpaste.....*Temple and Lunsford*
Archives of Dermatology and Syphilology, 25:439, March 1932.
6. Cheilitis and Dermatitis From Toothpaste.....*L. G. Beinhauer*
Archives of Dermatology and Syphilology, 41:892, May 1940.
7. Dermatitis and Stomatitis From the Mercury of Amalgam Fillings
Traub and Holmes
Archives of Dermatology and Syphilology, 38:349, September 1938.
8. Stomatitis Due to Sensitization to Dental Plates.....*H. Rattner*
Jour. Amer. Med. Asso., 1936, 106:2230-2232.
9. Medical Aspects of Periodontoclasia and Gingivitis
J. C. Healy, F. H. Daley, and M. H. Sweet
The Journal of Laboratory and Clinical Medicine, No. 7, pp. 698-705, April 1936.
10. The Role of Allergy in the Etiology of Orthodontic Deformity
T. W. Todd, M. B. Cohen, B. H. Broadbent
The Journal of Allergy, Vol. 10, No. 3, pp. 246-248

