

RECURRENT ULCERATIVE (APHTHOUS) STOMATITIS: INTRADERMAL FOOD TEST STUDIES

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PREVIOUS investigations into the etiology of recurrent ulcerative (aphthous) stomatitis have been characterized by negative findings and failure. Reports describing successful therapy in this disease have been relatively unimpressive.

Recurrent oral aphthae, when observed at their inception (which is infrequent), are generally viewed as vesicles. Usually the lesions are seen as recurring ulcers, commonly from 1 to 12 mm. in size but occasionally measuring 2 to 3 cm., appearing anywhere in the oral cavity. They are extremely sensitive and painful and are often covered by necrotic membranes or exudates. The ulcers are usually round or oval, occasionally with irregular peripheries, and they are surrounded by an area of inflammation. Single or multiple lesions may recur periodically. The ulcers usually heal in from ten to fourteen days, but they are followed by new lesions or crops of lesions after variable remission periods. An important differential diagnostic criterion is the absence of dermatologic lesions relatable to the oral aphthae. The clinical picture of patients with recurrent ulcerative stomatitis does not include the genital or eye symptoms characteristic of Behçet's syndrome or the skin lesions of erythema multiforme exudativum or pemphigus.

Scattered through the literature, however, there have been numerous reports and comments implicating allergy, particularly allergy to foods,^{6, 7} in the etiology of recurrent ulcerative (aphthous) stomatitis. According to Rowe,⁶ allergic reactions are not infrequently seen in the mouth, throat, esophagus, stomach, intestines, rectum, and anus, depending upon the area which has been specifically sensitized previously. There may be more than one manifestation of allergy in the same patient.⁶ Gastrointestinal symptoms, cheilitis, perlèche, angioneurotic edema, recurrent aphthae, stomatitis, gingivitis, and glossitis may possibly arise from food or drug allergy.⁶ In our own experience, some patients have themselves suspected a food allergy as the cause but have been unable specifically to associate the onset with the ingestion of any particular food.

Despite the suggestions of an allergic etiology, however, no serious effort to test the thesis that recurrent ulcerative stomatitis results from food allergy has thus far been reported. In this study the possible allergic (to foods)

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etiology of recurrent ulcerative stomatitis has been investigated by means of intradermal food tests. It was hoped that it might also be possible to delineate subdivisions within the over-all classification of recurrent ulcerative (aphthous) stomatitis on the basis of those patients who represented a possible food allergy etiology and those who did not.

METHODS

Accordingly, thirteen patients aged 12 to 50 years, twelve females and one male, all presenting with recurrent ulcerative stomatitis, were studied by means of intradermal food tests in the allergy clinic of the Presbyterian Hospital.

TABLE I. SCHEDULE OF INTRADERMAL FOOD TESTS

FIRST DAY	SECOND DAY	THIRD DAY
Codfish	Corn	Dust $\frac{1}{1,000}$
Clam	Rye	Orris $\frac{1}{100}$
Beef	Oats	Kapok $\frac{1}{100}$
Chicken	Lamb	Cotton seed $\frac{1}{100}$
Pork	Flounder	Feathers $\frac{1}{1,000}$
Milk	Walnut	Flaxseed $\frac{1}{100}$
Green peas	Almond	Timothy $\frac{1}{100}$
Lima beans	String beans	Ragweed $\frac{1}{100}$
Tomatoes	Cauliflower	Tobacco $\frac{1}{1,000}$
Orange	Beets	Alternaria $\frac{1}{1,000}$
Mustard	Carrots	Hormodendrum $\frac{1}{1,000}$
Wheat	Onions	Pyrethrum $\frac{1}{1,000}$
Rice	Spinach	Dog $\frac{1}{100}$
Potatoes	Asparagus	Wool $\frac{1}{1,000}$
Banana	Celery	Horse $\frac{1}{100}$
Chocolate	Pepper	Rabbit $\frac{1}{100}$
Peanuts	Coffee	Cat $\frac{1}{100}$
Egg	Apple	Silk $\frac{1}{1,000}$
	Cantaloupe	
	Peach	
	Strawberry	

Eighteen food tests were administered the first day, twenty-one food tests on the second day, and eighteen inhalant tests (to selected patients) on the third day (Table I). Intradermal testing procedures were carried out by a standard procedure, during the course of which approximately 0.03 c.c. of an extract of the various foods, etc., was injected intradermally. Tests were read approximately twenty minutes thereafter and were recorded as 0 to 4 plus.

RESULTS

The findings obtained for the thirteen patients with recurrent ulcerative stomatitis subjected to intradermal food testing procedures appear in Table II.

No striking pattern of food sensitivity could be established from systematic consideration of the tabulated results of our food-testing procedures.

These findings, interpreted in relation to results in normal patients (without allergy requiring diagnosis or therapy and specifically without recurrent ulcerative stomatitis), suggest that patients with recurrent ulcerative stomatitis demonstrate no allergy patterns not observable in a group of "normal" patients.

TABLE II. FINDINGS IN THIRTEEN PATIENTS WITH RECURRENT ULCERATIVE STOMATITIS
SUBJECTED TO INTRADERMAL FOOD-TESTING PROCEDURES

PATIENT NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL NEGA- TIVE	TOTAL + -	TOTAL FAINT	TOTAL POSITIVE	OTHER
Egg	-			F	+	-	-	-	-	-	+	-		8	0	1	2	
Milk	-			-	F	-	-	-	-	-	-	F	-	9	0	2	0	
Wheat	-			-	F	-	-	-	-	-	-	-	-	10	0	1	0	
Codfish	-			-	+	-	-	-	-	-	-	-	-	9	0	0	1	
Green pea	-			-	F	-	-	-	-	-	-	-	-	9	0	1	0	
Rice	-			-	-	-	-	-	-	-	-	-	-	11	0	0	0	
Clam	-			-	-	-	-	-	-	-	F	-	-	10	0	1	0	
Lima bean	-	-		-	-	-	-	-	-	F	-	F	-	9	0	2	0	
Potato	-			-	-	-	-	-	-	-	-	-	-	11	0	0	0	
Beef	-			-	F	-	-	-	-	-	-	F	-	9	0	2	0	
Tomato	F			-	F	-	-	-	-	-	-	-	-	9	0	2	0	
Banana	-			-	F	-	-	-	-	-	-	-	-	10	0	1	0	
Chicken	F			-	-	-	-	-	-	-	-	-	-	10	0	1	0	
Orange	-			-	-	+	-	-	-	-	-	-	-	10	0	0	1	
Chocolate	+			-	+	-	-	-	-	-	-	-	-	9	0	0	2	
Pork	-			-	F	-	F	-	F	-	-	-	-	8	0	3	0	
Mustard	+			-	-	-	-	-	-	-	-	-	-	10	0	0	1	
Peanut	-			-	-	-	-	-	-	-	-	-	-	11	0	0	0	
Corn	-			-	+	-	+	+	-	-	-	-	-	9	3	0	0	
String bean	+			-	-	-	-	-	-	-	-	-	-	11	1	0	0	
Celery	-			-	+	-	-	-	-	-	-	+	-	10	1	0	1	
Rye	-			-	-	-	-	-	-	-	-	-	-	12	0	0	0	
Beet	+			-	-	-	-	+	-	-	-	+	-	9	0	0	3	
Pepper	-			-	++	++	+	+	-	++	-	-	-	7	0	0	5	
Oats	-			-	-	-	-	-	-	-	-	-	-	12	0	0	0	
Cauliflower	-			F	-	-	-	-	-	-	-	+	+	9	1	1	1	
Coffee	-			-	-	-	-	-	-	-	-	-	-	12	0	0	0	
Lamb	-			-	+	-	-	-	-	-	-	-	-	11	1	0	0	
Onion	-			-	++	+	-	-	-	++	+	+	-	6	2	0	4	
Apple	-			-	+	-	+	-	-	-	-	-	-	10	1	0	1	
Flounder	-			-	-	-	-	-	-	-	-	-	-	12	0	0	0	
Carrot	-			-	+	-	-	-	-	-	-	-	+	10	0	0	2	
Cantaloupe	-			-	-	-	-	-	-	-	-	-	-	12	0	0	0	
Walnut	-			-	-	-	-	-	-	-	-	-	-	12	0	0	0	
Spinach	-			-	+	-	-	+	-	-	-	-	F	9	1	1	1	
Peach	-			-	-	-	-	-	-	-	-	-	-	12	0	0	0	
Almond	-			-	-	-	-	-	-	-	-	-	-	12	0	0	0	
Asparagus	-			-	-	-	-	-	-	-	-	-	-	12	0	0	0	
Strawberry	-			-	+	-	-	-	-	-	-	-	-	11	1	0	0	
Dust 1/1,000				-	-	F	-	-	-	-	-	-	-	3	0	1	0	
Timothy 1/100				-	-	-	-	-	-	-	-	-	-	4	0	0	0	
Dog 1/100				-	-	-	-	-	-	-	-	-	-	4	0	0	0	
Orris 1/100				-	-	-	F	-	-	-	-	-	-	3	0	1	0	
Ragweed 1/100				-	-	-	-	-	-	-	-	-	-	4	0	0	0	
Wool 1/1,000				-	-	-	-	-	-	-	-	-	-	4	0	0	0	
Kapok 1/100				-	-	-	-	-	-	-	-	-	-	4	0	0	0	
Tobacco 1/1,000				-	-	-	-	-	-	-	-	-	-	4	0	0	0	
Horse 1/100				-	-	-	-	-	-	-	-	-	-	4	0	0	0	
Cottonseed 1/100				-	-	-	-	-	-	-	-	-	-	4	0	0	0	
Alternaria 1/1,000				-	-	F	-	-	-	-	-	-	-	3	0	1	0	
Rabbit 1/100				-	-	-	-	-	-	-	-	-	-	4	0	0	0	
Feathers 1/1,000				-	-	-	-	-	-	-	-	-	-	4	0	0	0	
Hormodendrum 1/1,000				++	-	-	-	-	-	-	-	-	-	3	1	0	0	
Cat 1/100				-	-	-	-	-	-	-	-	-	-	4	0	0	0	
Flaxseed 1/100				-	-	-	-	-	-	-	-	-	-	4	0	0	0	
Pyrethrum 1/1,000				-	-	-	-	-	-	-	-	-	-	4	0	0	0	
Silk 1/1,000				-	-	-	-	-	-	-	-	-	-	4	0	0	0	

Key: + = Positive. - = Negative. F = Faint.

DISCUSSION

The results of treatment of recurrent ulcerative (aphthous) stomatitis with antihistaminic agents (tripelennamine and Thenylene) have previously been reported as unsatisfactory,² although some amelioration of symptoms seemed to occur in some cases. Such findings would not be considered inconsistent with the effect of antihistaminics in cases of frequent exposure to allergens in patients with maximum allergy. In the present study, however, no patient with recurrent ulcerative stomatitis was found to be maximally sensitive to any food.

Before allergy to food can be excluded as an etiological factor, elimination diet therapy must be attempted, since it is acknowledged that skin tests may be negative to allergenic foods and that intradermal tests frequently may give false positive reactions which are not associated with clinical allergy. Study of patients by intradermal food testing was considered a necessary step toward eventual study by test-positive or elimination diet.

SUMMARY

Thirteen patients with prolonged history of recurrent ulcerative stomatitis were studied for food sensitivity by intradermal testing procedures. The pattern of skin sensitivity reactions elicited did not establish allergy to food as etiologically responsible for recurrent ulcerative stomatitis, in terms of the group as a whole or for individual persons therein, with regard to the group of foods as a *whole* or any food in particular.

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