The Validity of the Pathergy Test (Non-specific Skin Hyperreactivity) in Behçet's Disease: A Double-blind Study by Independent Observers

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Abstract. The inter- and intraobserver variabilities of the pathergy test (the non-specific skin hyperreactivity) in Behçet's disesase are less than 10% each.

Key words: Behçet's disease; Pathergy

The non-specific hyperreactivity of the skin to a needle prick — the pathergy test — is an established feature of Behçet's disease (1, 2, 3, 6, 7).

The inter- (Inter-OV) and intra-observer variability (Intra-OV) of this test has not previously been described.

MATERIAL AND METHODS

25 patients with *bona fide* Behçet's disease according to the O'Duffy (4) criteria, 14 patients with recurrent oral ulcers, 2 patients with juvenile rheumatoid arthritis, 2 with urticaria, 2 with seborrheic alopecia, and one each with rheumatic fever, tinea pedis, tinea versicolor, Reiter's syndrome, contact dermatitis, uveitis, ulcus molle and 22 normal controls (apparently healthy physicians and nurses) constituted the study group. The pathergy test was done as described elsewhere (6). The results were expressed as: (0) no response or erythema alone; (1+) papule only; (2+) pustule with a diameter of roughly 2 mm or less; (3+) pustule with a diameter of roughly 3 mm or more.

All results were read by two independent observers (H. Y. and Y. T.) while the probands introduced their forearms through a hole in a curtain with their identities unknown to the observers. It was arranged that, in each session, patients with Behçet's disease and controls did not have their readings done in any form of succession. Each pathergy reaction was assessed twice, some 5–20 minutes apart, in each session. Thus a total of 74×2 observations were made by each observer in four separate sessions.

The Inter-OV of the test was expressed in two ways.

(a) Positive–negative variability: This was calculated by adding the number of times that there was disagreement between the observers as to the positivity or negativity of a test in each reading in each session and expressing this as a percentage of the total number of paired readings.

Table I. *Pathergy readings*

0: Negative; 1, 2, 3: degrees of positiveness

Groups	No. of cases	Readings H. Y. 1st	H. Y. 2nd	Y. T. 1st	Y. T. 2nd
Behçet's disease	1	3	3	3	3
	1	3	3	3	2
	1	2	2	3	3
	9	2	2	2	2
	1	1	1	2	2
	1	1	2	1	2
	4	1	1	1	1
	1	1	0	1	1
	1	0	0	1	1
	5	0	0	0	0
Controls	1	2	1	2	2
	2	1	1	1	1
	1	1	1	0	0
	1	1	0	0	0
	44	0	0	0	0

Table II. *Positive–negative variability*

Groups	Interobserver Reading	Frequency of disagreement	Total (%)	Intraobserver Reading	Frequency of disagreement	Total (%)
Behçet's disease	1st	1/25	3/50 (6.0)	H. Y.	1/25	1/50 (2.0)
	2nd	2/25		Y. T.	0/25	
Controls	1st	2/49	3/98 (3.1)	H. Y.	1/49	1/98 (1.0)
	2nd	1/49		Y. T.	0/49	
Total percentage			(9.1)			(3.0)

Table III. *Positive–positive variability*

Interobserver			Intraobserver		
Reading	Frequency of disagreement	Total (%)	Reading	Frequency of disagreement	Total (%)
1st	2/22	4/44	H. Y.	2/22	4/45
2nd	2/22	(9.1)	Y. T.	2/23	(8.9)

Behçet's and control groups were considered separately and the total interobserver *positive–negative* variability was expressed as the sum of the two percentages.

(b) Positive–positive variability: This was calculated by adding the number of times that there was disagreement between the observers as to the degree of positivity of the test in each reading in each session and expressing this as a percentage of the total number of positive paired readings in Behçet's and control groups taken *together*.

The Intra-OV of the test was calculated in the same manner.

RESULTS

The test results are shown in Table I. The positive–negative and positive–positive Inter-OV were both 9.1%. The positive–negative Intra OV on the other hand was 3.0% and positive–positive Intra-OV was 8.9% (Tables II, III). In both Inter- and Intra-OV, the arithmetical variation between the evaluations was never more than 1. Thus a lesion that appeared as a pustule which was (2+) or (3+) was never evaluated as negative. Positive–negative differences were always seen in papules which were evaluated as (1+).

DISCUSSION

Although there have been many reports on the pathergy phenomenon in Behçet's disease, as mentioned above, there are still some investigators who doubt its existence (5). Much of this skepticism arises, we believe, from the lack of data on the observer error of this phenomenon. Our results indicate that the pathergy test has acceptable inter- and intraobserver errors to make it clinically useful.

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Occurrence of *Trichophyton tonsurans* Infections in the Danish Island of Funen

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Abstract. During the period from 1977 to 1980 eleven cases of *T. tonsurans* infections were diagnosed in the Mycology Laboratory, Department of Dermatology and Venereology, Odense University Hospital, Denmark. All patients were adults and none had tinea capitis. Five