Yonsei Medical Journal
Vol. 38, No. 6, pp. 365~369, 1997

Diagnostic Criteria of Behçet's Disease; Problems and Suggestions

Sungnack Lee

There are no specific diagnostic laboratory tests for Behçet's disease. Diagnosis relies on proper history-taking and typical clinical manifestations. To provide more objectivity to the diagnosis, several diagnostic criteria have been introduced including one major set of guidelines by the International Study Group for Behçet's Disease (ISGBD) in 1990 which has made a significant contribution, although some disagreements exist in interpretation. Based on this criteria, recurrent oral ulceration is an obligatory manifestation for the diagnosis of Behçet's disease; however, some data indicates it is not a requirement for the diagnosis. In this article the author critically reviews different accepted diagnostic criteria or classifications of Behçet's disease and gives recommendations for a more thorough diagnosis.

Key Words: Diagnostic criteria, recurrent oral ulceration

Behçet's disease is well known through its wide spectrum of clinical features and its chronic recurrent cycles of remission and relapse. Nevertheless, there are no specific diagnostic laboratory tests. The pathergy test, first described in 1937 (Blobner, 1937) was considered for a long time to be the most clinically relevant pathognomic phenomenon in the diagnostic approach to Behçet's disease. Although the test is still being used today, several Behçet's disease research groups have critically pointed out that its clinical value needs to be reevaluated since significant regional differences in its positive rate exist between the Far East Asian and Mediterranean countries (Shimizu, 1977; Tüzün *et al.* 1979; Suzuki *et al.* 1981; Davies *et al.* 1984; Friedman-Birnbaum *et al.* 1990; Bang, 1992).

Diagnosis of Behçet's disease, therefore, entirely depends on proper history-taking and typical clinical manifestations. Furthermore, the interval between an initial symptom and a major or minor second manifestation can take as long as a decade in many cases. This episodic feature of the disease again places the onus on the individual ability of the physician.

As mentioned above, one of the major problems in establishing an adequate diagnosis of Behçet's disease is the fact that no significant pathognomic finding has been found yet. The diagnosis must be made based on a variety of clinical pictures including the chronic flow of the disease. However, such clinical data has its limits because of its less objective nature. With the intent of providing more objectivity to the diagnosis, the so-called diagnostic criteria was introduced (Mason and Barnes, 1969). Since then, different criteria or classifications have been developed by several groups (Behçet's Disease Research Committee of Japan, 1974; O'Duffy, 1974; Lehner *et al.* 1979b; Dilsen *et al.* 1985; Mizushima *et al.* 1988 (the so-called revised criteria of Behçet's Disease Research Committee of Japan, 1987); International Study Group for Behçet's Disease (ISGBD), 1990; Davatchi *et al.* 1993) (Table 1). Although the introduction of these different criteria

Received December 3, 1997
Department of Dermatology, Ajou University School of Medicine, Suwon, Korea
Address reprint request to Dr. S. Lee, Department of Dermatology, Ajou University School of Medicine, San 5, Wonchun-dong, Paldal-ku, Suwon, Kyunggido 442-749, Korea

Table 1. Major diagnostic criteria

1. Mason RM, Barnes CG : Behçet's syndrome with arthritis (1969).
2. Behçet's Disease Research Committee of Japan : Guide to diagnosis of Behçet's disease (1974).
3. O'Duffy ID : Suggested criteria for diagnosis of Behçet's disease (1974).
4. Lehner T, Batchelor JR, Challacombe SJ, Kennedy L : An immunogenetic basis for the tissue involvement in Behçet's syndrome (1979b).
5. Dilsen N, Koniçe M, Aral O : Our diagnostic criteria of Behçet's disease (1985).
6. Mizushima Y, Inaba G, Mimura Y, Ono S : Diagnostic criteria for Behçet's disease (1987).
7. International Study Group for Behçet's Disease : Criteria for diagnosis of Behçet's disease (1990).
8. Davatchi F, Shahram F, Akbarian M, Gharibdoost F, Chams C, Chams H, Mansoori P, Nadji A : Classification tree for the diagnosis of Behçet's disease (1993).

Table 2. Diagnostic criteria of the Behçet's disease research committee of Japan

	1987 revision
Major	Recurrent aphthous ulceration of the oral mucous membrane
	Skin lesions
	Erythema nodosum
	Subcutaneous thrombophlebitis
	Folliculitis, acne-like lesions
	Cutaneous hypersensitivity
	Eye lesions
	Iridocyclitis
	Chorioretinitis, retino-uveitis
	Definite history of chorioretinitis or retino-uveitis
	Genital ulcers
Minor	Arthritis without deformity and ankylosis
	Gastrointestinal lesions characterized by ileocaecal ulcers
	Epididymitis
	Vascular lesions
	Central nervous system symptoms
Diagnosis	
Complete	Four major features
Incomplete	Three major features
	or two major + two minor
	or typical ocular symptom + one major
	or two minor features

or classifications over the past 25 years reflects the failure of any single criteria to meet all the clinical demands, two criteria have been generally accepted and clinically applied (Lehner *et al.* 1979; Behçet's Disease Research Committee of Japan, 1987) (Fig. 1 & Table 2).

One major criticism of the Lehner's spectral classification(Fig. 1) is that the clinical chronology does not always correlate with the proposed classification. And the main weakness of the Japanese criteria is that the so-called possible type of Behçet's disease was applied in the frame of the Japanese criteria. However, the revised criteria has been improved through the deletion of that possible type (Behçet's Disease Research Committee of Japan, 1987). The most recently proposed criteria (Davatchi *et al.* 1993) has not been fully approved yet, still requiring a process of clinical applications

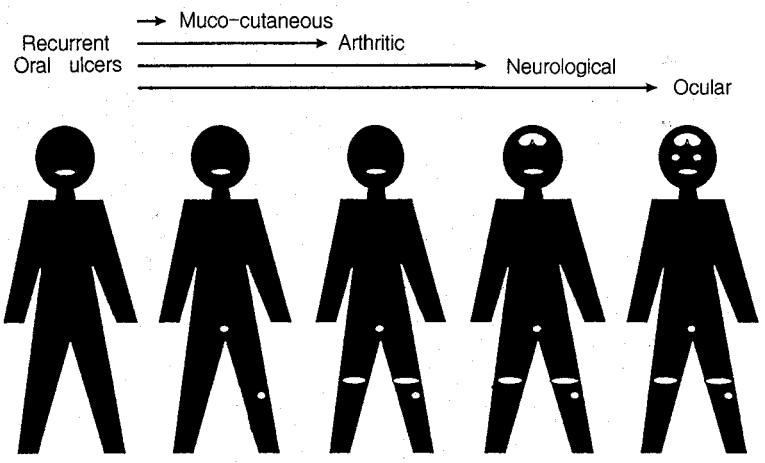

Fig. 1. Diagrammatic representation of the spectral classification of the four types of Behçet's syndrome (Reproduced from Lehner and Barnes, 1979; Lehner et al. 1979a).

Table 3. International criteria for classification of Behçet's disease

	1990
Recurrent oral ulceration	Minor aphthous Major aphthous or herpetiform ulceration observed by aphysician or reported reliably by patient Recurrent at least three times in one 12-month period
	Plus two of
Recurrent genital ulceration	Recurrrent genital aphthous ulceration or scarring, especially males, observed by physician or reliably reported by patient
Eye lesions	a. Anterior uveitis b. Posterior uveitis c. Cells in vitreous on slit lamp examination *or* d. Retinal vasculitis observed by qualified physician (ophthalmologist)
Skin lesions	a. Erythema-nodosum-like lesions observed by physician or reliably reported by patient b. Pseudofolliculitis c. Papulopustular lesions *or* d. Acneiform nodules consistent with Behçet's disease observed by a physician and in postadolescent patients not receiving corticosteroids
Positive pathergy test	An erythematous papule,>2mm, at the prick site 48 hr after the application of sterile needle, 20-22 gauge, which obliquely penetrated avascular skin to a depth of 5mm : read by physician at 48hr

Note : Findings are applicable if no other clinical explanation is present.

and critical evaluations.

Although significant contributions have been made toward improving and establishing more consistent diagnoses with the most recent diagnostic criteria, a serious misleading trend has been found in the interpretation of the criteria (ISGBD, 1990) (Table 3). Based on this criteria, recurrent oral ulceration would be considered an obligatory manifestation for the diagnosis of Behçet's disease.

Our study group shares the opinion that recurrent oral ulceration is one of the most frequent and important clinical manifestations for Behçet's disease. In a study of the clinical analysis of 40 cases of childhood-onset Behçet's disease, 100% had recurrent oral ulcers; thus supporting the view that recurrent oral ulcer could be used as an obligatory symptom in the diagnosis (Kim *et al.* 1994). We believe it is therefore an important clinical indicator, at least in East Asian countries. However, in adult Behçet's patients, it may not be considered a necessary requirement for Behçet's diagnosis as specified by the ISGBD criteria. In our prospective study, 35 (52.2%) of 67 patients with recurrent oral ulceration developed overt manifestations of Behçet's disease at an average of 7.7 years after the onset of recurrent oral ulceration (Bang *et al.* 1995). Another report revealed that oral manifestation was seen as an initial symptom in 52% of 85 Behçet's patients (Oshima *et al.* 1963). In addition, according to our study of 410 Behçet's patients, 19.5% of patients with Behçet's disease presented without oral lesion as the initial manifestation of the disease (Kim *et al.* 1988). As well, another report revealed similar data showing 27% without oral lesion as the initial manifestation among 2,176 Behçet's cases (Gharibdoost *et al.* 1993). Furthermore, they found that 5% of patients did not show any oral lesions at all.

According to the ISGBD criteria, for example, a patient with severe ocular lesions and cutaneous symptoms but without oral aphthosis cannot be diagnosed as Behçet's disease, which may lead to an improper diagnosis with adverse therapeutic consequences.

Therefore, since the ISGBD criteria does not allow for variations in the symptoms of Behçet's disease, it is recommended, for the time being at least, that the Japanese criteria be applied concurrently with the ISGBD criteria.

REFERENCES

Bang D: *Dermatological manifestation of Behçet's disease in Korea.* In Burgdorf WHC, Katz SI, eds.: Proceedings of the 18th World Congress of Dermatology. New York, Parthenon, *1992, 1074*

Bang D, Hur W, Lee ES, Lee S: Prognosis and Clinical Relevance of Recurrent Oral Ulceration in Behçet's Disease. *J Dermatol 22: 926-929, 1995*

Behçet's Disease Research Committee of Japan: Behçet's disease: Guide to diagnosis of Behçet's disease. *Jpn J Ophthalmol 18: 291-292, 1974*

Blobner F: Zur rezidivierenden Hypopyon-iritis. *Z Augenheilkd 91: 129-139, 1937*

Davatchi F, Shahram F, Akbarian M, Gharibdoost F, Chams C, Chams H, Mansoori P, Nadji A: *Classification tree for the diagnosis for Behçet's disease.* In Godeau P. Wechsler B, eds.: Proceedings of the Sixth International Conference on Behçet's Disease. Amsterdam, Elsevier Science Publishers, *1993, 245-248*

Davies PG, Fordham JN, Kirwan JR, Barnes CG, Dinning WJ: The pathergy test and Behçet's syndrome in Britain. *Ann Rheum Dis 43: 70-73, 1984*

Dilsen N, Koniçe M, Aral O: *Our diagnostic criteria of Behçet's disease: an overview.* In Lehner T, Barnes CG, eds. : Proceedings of the Fourth International Conference on Behçet's Disease. London, Royal Society of Medicine, *1985, 177-180*

Friedman-Birnbaum R, Bergman R, Aizen E: Sensitivity and specificity of pathergy test results in Israeli patients with Behçet's disease. *Cutis 45: 261-264, 1990*

Gharibdoost F, Davatchi F, Shahram F, Akbarian M, Chams C, Chams H, Mansoori P, Nadji A: *Clinical manifestations of Behçet's disease in Iran Analysis of 2176 cases.* In Godeau P, Wechsler B, eds. :Proceedings of the 6th International Conference on Behçet's Disease. Amsterdam, Elsevier Science Publishers, *1993, 153-158*

International Study Group for Behçet's Disease (ISGBD): Criteria for diagnosis of Behçet's disease. *Lancet 335: 1078-1080, 1990*

Kim DK, Chang SN, Bang D, Lee ES, Lee S : Clinical analysis of 40 cases of childhood onset Behçet's disease. *Pediatr Dermatol 11: 95-101, 1994*

Kim HJ, Bang D, Lee SH, Yang DS, Kim DH, Lee KH, Lee S, Kim HB, Hong WP : Behçet's syndrome in Korea: A look at the clinical picture. *Yonsei Med J 29: 72-78, 1988*

Lehner T, Barnes CG: *Criteria for diagnosis and classification of Behçet's syndrome.* In Lehner T, Barnes CG, ed. Conference sponsored by the Royal Society

of Medicine. London, Academic press, *1979a, 1-9*

Lehner T, Batchelor JR, Challacombe SJ, Kennedy L: An immunogenetic basis for the tissue involvement in Behçet's syndrome. *Immunology 37(4): 895-900, 1979b*

Mason RM, Barnes CG: Behçet's syndrome with arthritis. *Ann Rheum Dis 28: 95-103, 1969*

Mizushima Y, Inaba G, Mimura Y, Ono S: Diagnostic criteria for Behçet's disease in 1987, and guideline for treating Behçet's disease(in Japanese). *Saishin Igaku 43: 391-393, 1988*

O'Duffy JD: Suggested criteria for diagnosis of Behçet's disease. *J Rheumatol 1(suppl 1): 1974*

Oshima Y, Shimizu T, Yokohari R, Matsumoto R, Kano K, Kagami, Naraya H: Clinical studies on Behçet's syndrome. *Ann Rheum Dis 22: 36-45, 1963*

Shimizu T: *Clinicopathological studies on Behçet's disease.* In Dilsen N, Koniçe M, Övül C, eds.: Behçet's Disease. Proceedings of the Second International Symposium on Behçet's Disease. Amsterdam-Oxford, Elsevier Science Pulishers, *1977, 9-43*

Suzuki K, Mizuno N: *Intracutaneous test with physiological saline in Behçet's disease.* In Inaba G, ed. : Proceedings of the Third International Conference on Behçet's Disease. Tokyo, University of Tokyo Press, *1981, 333-342*

Tüzün Y, Yazici H, Pazarli H, Yalcin B, Yurdakul S, Muftuoglu A :The usefulness of the nonspecific skin hyperreactivity(the pathergy test) in Behçet's disease in Turkey. *Acta Derm Venereol(Stockh) 59: 77-79, 1979*