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Clinical characteristics of Behçet's disease in southern Taiwan

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A total of 22 patients were found to have Behçet's disease during the period from 1991 through 1999 in the Chang Gung Memorial Hospital in Kaohsiung, Taiwan. Diagnosis of Behçet's disease was made according to the criteria proposed by the International Study Group for Behçet's Disease. Oral lesions were found in all patients, ocular lesions in 55% of patients, genital lesions in 55%, skin lesions in 90.9%, pathergy reaction in 22.7%, arthritis in 31.8%, gastrointestinal involvement in 31.8%, involvement of the central nervous system in 27.2%, and thrombophlebitis in 18%. The mean age was 35.5 years with a biphasic age distribution. The clinical characteristics of patients in this series were different from patients in other Asian countries, which suggests that geographic and genetic factors are important in the pathogenesis of the disease.

Key words: Behçet's disease, clinical manifestation, Taiwan

Behçet's disease is a chronic recurrent systemic disease of unknown etiology, characterized by the presence of oral ulceration, genital ulceration, eye lesions, and positive pathergy test. The disease is most common in the Mediterranean basin, the Middle East, and Japan, but is infrequent in Taiwan [1].

This study aimed to determine the clinical characteristics of Behçet's disease in patients treated in the Chang Gung Memorial Hospital, Kaohsiung, Taiwan from 1991 through 1999.

Materials and Methods

During the period from 1991 through 1999, 22 patients with Behçet's disease were treated at the Chang Gung Memorial Hospital. The diagnosis of Behçet's disease was made according to the criteria proposed by the International Study Group for Behçet's Disease [2]. Data on the presentation of Behçet's disease was recorded for each patient. A pathergy test was performed or read by a rheumatologist or dermatologist. Normal saline (0.2 mL) was injected intradermally on the flexor aspect of the forearm, and the site was inspected after 24 and 48 h. The finding of a sterile pustule with erythematous halo or indurated erythema of at least 0.5 cm constituted a positive test. All patients were regularly examined by an ophthalmologist, a rheumatologist, a dermatologist, and a neurologist. The clinical manifestations were compared with those from previous studies in China [3] and Japan [4].

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Statistics

Pearson's chi-square analysis was used to compare the difference between data from this study and studies from other Asian populations. A p value less than 0.05 was considered statistically significant.

Results

The ages of the 22 patients ranged from 6 to 69 years (mean, 35.7 years). Most patients showed symptoms of the disease at 20 to 30 years of age, or between 40 and 50 years of age, resulting in a biphasic age distribution (Fig. 1). The frequency of occurrence of the symptoms is shown in Table 1. Skin lesions were

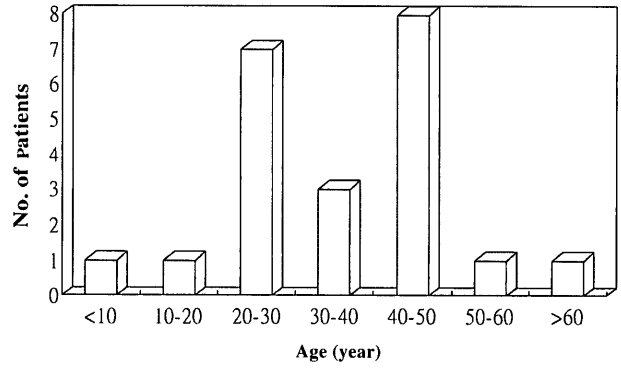

Fig. 1. Age distribution of Behçet's disease in 22 Taiwan patients.

Table 1. Clinical manifestations of Behçet's disease in 22 patients

Symptom/sign	No. of cases (%)	Clinical manifestation
Recurrent oral ulcer	22 (100)	
Skin lesion	20 (90.9)	Erythema nodosum (14)
		Papulopustular (6)
		Pseudofolliculitis (3)
Pathergy reaction	5 (22.7)	
Ocular lesion	12 (55)	Anterior uveitis (4)
		Posterior uveitis (1)
		Panuvitis (1)
		Retinal vasculitis (1)
		Episcleritis (1)
		Conjunctivitis (5)
		Cataract (2)
Genital ulcer	12 (55)	
Arthralgia	7 (32)	Ankle (4)
		Knee (3)
Gastrointestinal lesion	7 (31.8)	Colon ulcer (4)
		Megacolon (1)
		Intestine gangrene (1)
		Ileum perforation (1)
Central nervous system lesion	6 (27.2)	Seizure (2)
		Meningitis (1)
		Paraplegia (1)
		Cerebellar (1)
		Brain stem (1)
Vascular lesion	4 (18)	SVC obstruction (1)
		IVC obstruction (2)
		AMI (1)

Abbreviations: AMT = acute myocardial infarction; IVC = inferior vena cava; SVC = superior vena cava

present in 20 patients, with erythema nodosum in 14 (70%) and pseudofolliculitis in 6 (30%). The pathergy reaction test was positive in 5 patients, of whom 3 were men and 2 were women. Ocular symptoms and signs were present in 12 patients, including 6 patients with uveitis (50%) and 1 who became blind. Multiple and painful genital ulcerations were present in 12 patients. The central nervous system was affected in 6 patients (3 men and 3 women), with clinical manifestations including seizure disorder (2 patients), meningitis (1), paraplegia (1), cerebellar lesions (1), and brainstem lesions (1). Brain magnetic resonance imaging was normal in the 2 patients with seizure. Electroencephalography in these 2 patients showed generalized repetitive epileptiform change with diffuse cortical dysfunction. Vascular lesions were present in 4 patients, including 1 with superior vena cava obstruction, 2 with inferior vena cava obstruction, and 1 with myocardial infarction. Gastrointestinal involvement was found in 7 patients, with clinical manifestations including colon or rectal ulcer (4 patients), megacolon (1), intestinal gangrene (1), and ileum perforation (1). Two patients with colon ulcer developed colon cancer. One of these patients had recurrent oral ulcer, genital ulcer, and uveitis since the age of 30 years. He was a heavy smoker and had chronic obstructive pulmonary disease. Colon ulcer and bleeding developed before colon cancer was diagnosed. He underwent colectomy and was stable 6 years postoperation. The other patient had recurrent oral ulcer, genital ulcer, and leg erythema nodosum. He experienced rectal ulcer and bleeding followed by rectal cancer. His condition was stable 6 months postoperation. Two patients died of lower gastrointestinal bleeding caused by colon ulcer. Seven patients had nondeforming arthritis, with a predilection for the ankle joint (4/7). Comparisons of data on symptoms and signs from the present study with studies in China [3] and Japan [4] are shown in Table 2.

The prevalence of ocular lesions in this study were less than in the study from Japan. The prevalence of genital ulcers, arthritis, and pathergy reaction were less frequent than in the studies from China and Japan. Gastrointestinal and central nervous lesions were more prevalent in this study than in the study from China.

Table 2. Comparisons of clinical findings of Behçet's disease among Taiwan, Japan, and China

Symptom/sign	Taiwan n = 22 (%)	China[a] n = 310 (%)	Japan[b] n = 2014 (%)
Oral ulcer	22 (100)	307 (99)	1980 (98.3)
Skin lesion	20 (90)	300 (96.8)	1789 (88.8)
Ocular lesion	12 (54.5)	134 (43.2)	1558 (77.4)[c]
Genital ulcer	12 (60)	228 (73.6)[c]	1537 (76.3)[c]
Arthritis	7 (32)	189 (60.9)[c]	1096 (54.4)[c]
Gastrointestinal lesion	7 (32)	26 (8.4)[c]	480 (23.8)
Central nervous system lesion	6 (27)	8 (2.6)[c]	257 (12.7)
Vascular lession	4 (18)	27 (8.7)	133 (6.6)
Pathergy reaction	5 (22.7)	167 (61.8)[c]	841 (41.75)[c]

[a]Reference [3]
[b]Reference [4]
[c]$p<0.05$.

Discussion

Behçet's disease is rare in Taiwan, with a prevalence of 1 in 100 000 [5]. The clinical manifestations of patients in this study were different from those found in neighboring regions. In this study, the ocular frequency was lower than in studies from Japan. Ocular morbidity, especially acquired blindness, was less prevalent than in the Japanese study. The finding of a lower incidence of genital ulcers, arthritis, and pathergy reaction in this study group may have been caused by differences in genetic factors. Patients of this series had a biphasic age distribution with peak onset age ranged from 20 to 30 years and 40 to 50 years. Two patients had colon cancer. Concurrent neoplasms in Behçet's disease have been previously reported [6-9]. Celik *et al* [10] reported a case of Behçet's disease complicated with bladder cancer after receiving cyclophosphamide therapy. Hamza [11] reported 2 cases of Behçet's disease complicated with cancer after treatment with chlorambucil. A study from Benamour *et al* [12] reported a low incidence of neoplasia in Behçet's disease. Patients in this study did not receive cytotoxic therapy, which suggests that recurrent colon ulceration and healing may have been the cause of neopalsia, which increases the risk of epithelial dysplasia and is considered a precursor of colorectal cancer [13]. Behçet's disease may also be accompanied by defective immune surveillance, which predisposes to neoplasia transformation. Two (9%) patients died in this study, both of whom had lower gastrointestinal bleeding and ocular involvement. Thus, a combination of gastrointestinal and ocular manifestations may be the most important prognostic factor in the Taiwan population. Mori *et al* [14] reported that ulcers in Behçet's disease often tend to bleed and are easily perforated. Because colon ulcers in patients with Behçet's disease are occasionally resistant to drug and surgical treatment, they can lead to a fatal prognosis. Park *et al* [15] reported that the causes of death in Behçet's disease were gastrointestinal bleeding, bowel perforation, superior and inferior vena cava syndrome, aortic regurgitation, cerebrovascular disease, sepsis, and lung abscess. Choi *et al* [16] reported that men with ocular involvement had a poor prognosis than women. Shimizu *et al* [17] found that young patients with ocular involvement had a poor outcome. Wong *et al* [18] identified central nervous system, artery or vein involvements, and gastrointestinal perforation as poor prognostic factors in patients with Behçet's disease. Identification of these clinical features could provide a prognostic assessment, leading to early treatment and improved outcome.

In conclusion, the clinical presentations of patients in this series were different from patients in other Asia regions. The differences may be caused by ethnic or geographic factors. Further clinical and epidemiological studies of Behçet's disease are needed to better understand the etiology and nature of the disease.

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