

Clinico-epidemiological Study of Behcet's Disease in Baghdad Teaching Hospital, Baghdad, Iraq

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ABSTRACT

Background: Behcet's disease is a chronic inflammatory condition marked by major symptoms such as oral aphthous ulcers, uveitis, skin lesions, and genital ulcers.

Objectives: To determine the different Clinico-epidemiological features associated with Behcet's disease patients and find out relationships between the demographical characteristics with epidemiological & clinical characteristics in Baghdad teaching hospital, Iraq.

Patients and Methods: A cross-sectional study was conducted, and performed study was in the Rheumatology unit & Dermatology and Venereology center in Baghdad teaching hospital, included (116) patients during the period of 6 months starting on 2nd of November 2019 ending to 2nd of April 2020.

Results: The age range at the time of the study was between 13–64 years. The mean age and SD were 35.08 ± 10.46 and 70.7% male while 29.3% female. Regarding the general clinical manifestation of Behcet's disease were Recurrent oral ulceration, Recurrent genital ulceration, Eye lesion, Skin lesion, Joint symptoms, with higher frequency (96.6%, 37.9%, 67.2%, 62.1%, 75.9%), respectively. Regarding the complication of Behcet's disease were ocular complications with higher frequency (34.5%), and the first major symptom of BD (94%) was an oral ulcer. The onset of disease at (20–29) years with higher frequency (38.8%).

Conclusion: Ocular manifestations high a significant association with severity of disease & duration of disease. A significant association was found between gender with occupation & smoking.

Recommendations: More studies are needed to clarify the etiology, improve the specificity of diagnosis, and develop new therapeutic strategies. Early diagnosis & immediate treatment supported with good knowledge by a dermatologist is mandatory to prevent visceral and ocular involvement.

Keywords: Behcet's Disease, Baghdad, Clinico-epidemiological, Iraq.

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INTRODUCTION

Behcet's disease is a rare disease that falls under the category of vasculitides. Although the disease can be found in any region, it is more common along the Silk Road. Behcet disease is a rare vasculitic condition characterized by recurrent oral aphthous ulcers, genital ulcers, and uveitis, as well as a triple-symptom cluster.¹ Behcet disease is one of the few vasculitides that can affect small, medium, and large blood vessels. The disease tends to be caused by an autoimmune reaction induced by an infectious agent, and it affects people who have ancestors who lived along the Silk Road, an ancient trade route connecting Asia, the Middle East, and southern Europe. BD is found worldwide, but clusters are most common along the Silk Road, with the highest prevalence in Turkey (around 80–370 cases per 100,000).² In Japan and Iran, there is a lower prevalence than in

North America and northern Europe. In the United Kingdom, 0.64 cases per 100,000 are estimated.³ According to reports, BD mostly affects young adults in their third and fourth decades. In terms of gender, it is defined as varying from country to country; for example, it is more common in males in the Middle East of Asia, including Israel, Egypt, and Turkey, with a ratio of 3–5 men for every woman; in reports from Germany, Japan, the United States, and Brazil, it is more common in women.^{4,5}

Since there is no standard test for diagnosing Behcet's disease, multiple criterion sets were used up until 1990. The first evidence-based criteria for Behcet's disease were introduced by the International Study Group (ISG) in 1990.⁶ In most cases, a combination of local and systemic therapy is used. Immunosuppressants, corticosteroids, and colchicine are some of the medications used.⁷

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OBJECTIVES OF THE STUDY

To determine the different Clinico-Epidemiological features associated with Behcet's disease patients and to find out relationships between the demographical characteristics with epidemiological & clinical characteristics in Baghdad teaching hospital.

PATIENTS AND METHODS

Study Design: A cross-sectional study.

Duration of the study: The data collection continued for (6) months, starting from 2nd of November 2019 to the 2nd of April 2020.

Place of Study: This study was performed in the Rheumatology unit & Dermatology and Venereology Center in Baghdad teaching hospital.

Inclusion and Exclusion Criteria of Study

Inclusion Criteria: All patients with BD attending to Baghdad teaching hospital in during the period of study

Exclusion Criteria: Patients with Behcet's disease who visit the Rheumatology unit or Dermatology and Venereology Center in other hospitals in Baghdad and other governorates and patients who visit other hospitals in Baghdad or other governorates.

Statistical Data Analysis

Data analysis was carried out using the available statistical package of SPSS-25 (Statistical Packages for Social Sciences-version 25). Data were presented in simple frequency, percentage, mean, standard deviation, and range (minimum-maximum values). The significance of difference for different percentages (qualitative data) was tested using Pearson Chi-square test (c2-test). Statistical significance was considered whenever the P-value was equal to or less than 0.05.

RESULTS

Table 1 shows the most cases were primary school students (40.5%). At the same time, the highest percentage of occupations for patients had housewives (23.3%). Marital status, most cases (73.3%) were married, and they revealed that (79.3%) of patients were living in the urban area and the highest percentage of patients were non-smokers (62.1%). Most patients hadn't a family history of BD (88.8 %) and hadn't a family history of the immune-mediated disease (85.3%).

Figure 1 shows a high percentage of patients from the male (71%) while the lower percentage (29%) was from females.

Table 2 is regarding the duration of disease with gender, and it shows a significant association between gender and the duration of the study (P=0.017)

Figure 2 shows the high percentages of patients (85%) who don't have a family history of immune-mediated disease while a lower percentage of patients (15%) had a family history.

Table 3 is regarding the first major symptoms (genital ulcer); the association between the first symptom (genital ulcer) and gender was found to be statistically significant (p= 0.014).

Table 4 shows the disease burden with a family history of immune-mediated disease. A higher percentage of patients had fatigue (75.8%), and the association between the disease

Table 1: Distribution of the demographic characteristics of the patients

| | | No | % | |
|---|-----------------------|-----------|------|------|
| Total No. | | 116 | 100 | |
| Education level of patient | Illiterate | 8 | 6.9 | |
| | Read & Write | 7 | 6.0 | |
| | Primary | 47 | 40.5 | |
| | Intermediate | 22 | 19.0 | |
| | Secondary | 15 | 12.9 | |
| | Diploma | 4 | 3.4 | |
| | College | 13 | 11.2 | |
| Occupation of patient | Not working | 25 | 21.6 | |
| | Retired | 7 | 6.0 | |
| | Student | 15 | 12.9 | |
| | Governmental employee | 10 | 8.6 | |
| | Private sector | 15 | 12.9 | |
| | Housewives | 27 | 23.3 | |
| | Military | 17 | 14.7 | |
| | Marital status | Married | 85 | 73.3 |
| | | Unmarried | 30 | 25.9 |
| Divorced | | 1 | 0.9 | |
| Living place | Widow | - | - | |
| | Rural | 24 | 20.7 | |
| | Urban | 92 | 79.3 | |
| Smoking | Smoker | 38 | 32.8 | |
| | Non-smoker | 72 | 62.1 | |
| | X-smoker | 6 | 5.2 | |
| | | No | % | |
| Family history of Behcet disease | Yes | 13 | 11.2 | |
| | No | 103 | 88.8 | |
| Family history of immune mediated disease | Yes | 17 | 14.7 | |
| | No | 99 | 85.3 | |

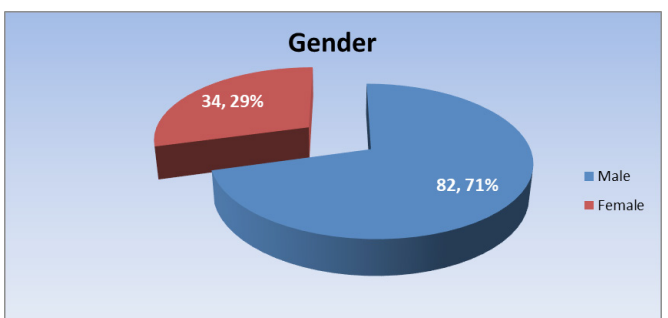


Figure 1: Gender distribution of patients

burden and family history of the immune-mediated disease shows non-significance except sleep disturbance show high significance (0.008).

DISCUSSION

Regarding mean & SD age of study sample, this result find the male (34.8 ± 10.6) was earlier than in female (35.7 ± 10.2) in this study, this result is similar to other reported studies.^{8,10} This study shows the occupation of patients; most patients are housewives (23.3%). This result is similar to those reported studies conducted in Korea^{11,12} that find housewives at high

Table 2: The distribution of the epidemiological characteristics of the patients and gender

| Epidemiological Characteristics | Male | | Female | | Total | | P-value | |
|---------------------------------|-----------|------------|--------|-------------|-------|-----|---------|--------|
| | No | % | No | % | No | % | | |
| Age of first visit (years) | <20y | 15 | 18.3 | 5 | 14.7 | 20 | 17.2 | 0.972 |
| | 20–29 | 28 | 34.1 | 11 | 32.4 | 39 | 33.6 | |
| | 30–39 | 28 | 34.1 | 12 | 35.3 | 40 | 34.5 | |
| | 40–49 | 9 | 11.0 | 5 | 14.7 | 14 | 12.1 | |
| | =>50y | 2 | 2.4 | 1 | 2.9 | 3 | 2.6 | |
| | Mean ± SD | 29.2 ± 9.6 | | 30.4 ± 10.8 | | 116 | | |
| Age at diagnosis (years) | <20y | 12 | 14.6 | 3 | 8.8 | 15 | 12.9 | 0.903 |
| | 20–29 | 25 | 30.5 | 12 | 35.3 | 37 | 31.9 | |
| | 30–39 | 29 | 35.4 | 13 | 38.2 | 42 | 36.2 | |
| | 40–49 | 12 | 14.6 | 4 | 11.8 | 16 | 13.8 | |
| | =>50y | 4 | 4.9 | 2 | 5.9 | 6 | 5.2 | |
| | Mean ± SD | 30.6 ± 9.8 | | 31.6 ± 10.3 | | 116 | | |
| Age at onset of disease (years) | <20y | 20 | 24.4 | 7 | 20.6 | 27 | 23.3 | 0.890 |
| | 20–29 | 33 | 40.2 | 12 | 35.3 | 45 | 38.8 | |
| | 30–39 | 23 | 28.0 | 11 | 32.4 | 34 | 29.3 | |
| | 40–49 | 5 | 6.1 | 3 | 8.8 | 8 | 6.9 | |
| | =>50y | 1 | 1.2 | 1 | 2.9 | 2 | 1.7 | |
| | Mean ± SD | 26.7 ± 9.2 | | 27.4 ± 10.5 | | 116 | | |
| The duration of disease (years) | 0 | 2 | 2.4 | 5 | 14.7 | 7 | 6.0 | 0.017* |
| | 1–4 | 27 | 32.9 | 6 | 17.6 | 33 | 28.4 | |
| | 5–9 | 27 | 32.9 | 11 | 32.4 | 38 | 32.8 | |
| | 10–14 | 13 | 15.9 | 3 | 8.8 | 16 | 13.8 | |
| | 15–19 | 7 | 8.5 | 8 | 23.5 | 15 | 12.9 | |
| | =>20 | 6 | 7.3 | 1 | 2.9 | 7 | 6.0 | |
| | Mean ± SD | 8.6 ± 8.5 | | 8.2 ± 6.3 | | 116 | | |

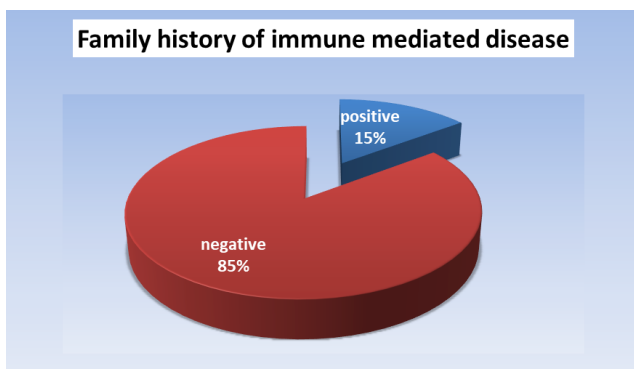


Figure 2: Family history of immune-mediated disease

percentages (35.3%, 56.5%). Regarding patients' Educational status in this study, most of the patients at the primary school level (40.5) % agree with the results of those reported studies^{13,14} which find the most of the patients at the primary school level (49.4%, 59%). About the Smoking status of patients in this study show that (32.8%, 62.1%, 5.2%) of the patients are (smokers, non-smokers, ex-smoker), respectively, this result show the non-smokers at a high percentage that agree with the results of some reported studies^{13,15,16} showing the

most patients are non-smokers. Regarding marital status, most of the patients were married 73.3%, this result agrees with the results of other published studies^{11,13,17} who find that most cases at high percentages (85.4%, 72.1%, 73.3 %), respectively were married. This study shows the relationship between family history and Behcet's disease, this result shows only (11.2 %) of patients have a family history of the behcet's disease. This result agrees with the results of those published studies (10.3%, 13.8%, 1.1%).¹⁸⁻²⁰ This study show relationship between the family history of immune-mediated disease and Behcet's disease, this study shows that only 14.7% of patients have a family history of the immune-mediated disease. No previous study on the relationship between family history of immune-mediated disease and Behcet's disease in Iraq. The mean age at onset of disease in years shows in this study was 27 years. This result is similar to those reported in various studies (26 years, 26–34 years, 27.6 years, 26 years, 27.7 years).²¹⁻²⁵ The mean & SD duration of disease in years demonstrated in this study occurred at (8.48 ± 7.89) years. This result is similar to the results of those reported studies.^{25,26} The mean age of diagnosis in this study show at 31 years. This result agrees with the results of other reported studies

Table 3: Distribution of the initial/first major manifestation of the patients according to gender.

| The initial major manifestation | | Male | | Female | | Total | | P-value |
|---------------------------------|-----|------|------|--------|------|-------|-----|---------|
| | | No | % | No | % | No | % | |
| Oral aphthous ulcers | Yes | 77 | 93.9 | 32 | 94.1 | 109 | 94 | 0.965 |
| | No | 5 | 6.1 | 2 | 5.9 | 7 | 6 | |
| Genital ulcerations | Yes | 28 | 34.1 | 4 | 11.8 | 32 | 28 | 0.014* |
| | No | 54 | 65.9 | 30 | 88.2 | 84 | 72 | |
| Skin lesions | Yes | 30 | 36.6 | 7 | 20.6 | 37 | 32 | 0.092 |
| | No | 52 | 63.4 | 27 | 79.4 | 79 | 68 | |
| Ocular lesions | Yes | 40 | 48.8 | 21 | 61.8 | 61 | 53 | 0.202 |
| | No | 42 | 51.2 | 13 | 38.2 | 55 | 47 | |
| Joint involvement | Yes | 8 | 9.8 | 7 | 20.6 | 15 | 13 | 0.114 |
| | No | 74 | 90.2 | 27 | 79.4 | 101 | 87 | |
| Vascular involvement | Yes | 1 | 1.2 | - | - | 1 | 1 | 0.518 |
| | No | 81 | 98.8 | 34 | 100 | 115 | 99 | |
| CNS | Yes | - | - | - | - | 0 | 0 | - |
| | No | 82 | 100 | 34 | 100 | 116 | 100 | |

Table 4: Distribution of disease burden with family history of the immune-mediated disease

| Disease Burden | | Family history of immune mediated disease | | | | | | P-value |
|--|-----|---|-------|----|-------|-------|-------|---------|
| | | Yes | | No | | Total | | |
| | | No | % | No | % | No | % | |
| Pain & discomfort | Yes | 7 | 41.18 | 42 | 42.42 | 49 | 42.24 | 0.923 |
| | No | 10 | 58.82 | 57 | 57.58 | 67 | 57.76 | |
| Fatigue | Yes | 16 | 94.12 | 72 | 72.73 | 88 | 75.86 | 0.057 |
| | No | 1 | 5.88 | 27 | 27.27 | 28 | 24.14 | |
| Problem with mobility | Yes | 7 | 41.18 | 23 | 23.23 | 30 | 25.86 | 0.119 |
| | No | 10 | 58.82 | 76 | 76.77 | 86 | 74.14 | |
| Problem in performing usual activities | Yes | 4 | 23.53 | 29 | 29.29 | 33 | 28.45 | 0.627 |
| | No | 13 | 76.47 | 70 | 70.71 | 83 | 71.55 | |
| Sleep disturbance | Yes | 11 | 64.71 | 31 | 31.31 | 42 | 36.21 | 0.008* |
| | No | 6 | 35.29 | 68 | 68.69 | 74 | 63.79 | |

(32 years, 33 years).^{23,27} The first manifestation to appear in most patients is an oral ulcer, this study show (94%) of patients with an oral ulcer. This result is similar to the results of another published study (83.9%;²⁸ 82.9%;²⁹ 61.5%;³⁰ 36.7%¹⁷).

CONCLUSION

It was found that highly significant association between ocular manifestations with the severity of disease & duration of disease, sleep disturbance, and family history of the immune mediated disease. Gender was found to have a significant association with (occupation, smoking, and disease duration).

Recommendations

More research is required to determine the etiology, enhance diagnosis precision, and develop new therapeutic strategies. To prevent visceral and ocular involvements, early diagnosis and treatment with the help of a dermatologist with extensive experience are essential.

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