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ARTHROPATHY AMONG PATIENTS WITH BEHCET'S DISEASE IN KING HUSSEIN MEDICAL CENTER IN JORDAN

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Abstract

Objectives: We analyzed the clinical features of Behcet's disease in patients suffering from arthropathy among patients with Behcet's disease.
Methods: a retrospective cross-sectional study that included all patients who visited King Hussein medical center in Rheumatology clinic from March 2016 to March 2017. 108 patients were well-matched the diagnoses of BD who fulfilled the international study group criteria for the diagnosis. SPSS 23 was used to analyze data.
Result: The mean age was 30.8 years. Approximately 80% of the patients were males. A fifteen percent of patients had arthropathy, 94% of them were males and all of patients were below 40 years of age.
Conclusion: neither gender and age nor Behcet's disease manifestations had a correlation with the prevalence of arthropathy in patients with Behcet's disease. Colchicine was the only treatment affected arthropathy prevalence.

Introduction

Behcet's disease (BD) was named by Hulusi Behcet, a Turkish Dermatologist who initially described the disease in 1937. He described it as a Triple Complex Disorder partner the presence of oral aphthosis, genital aphthosis, and ocular manifestations, predominantly uveitis. Nonetheless, before him, the disease was at that point revealed, yet not as a secluded and new disease, by Shigeta and Adamantiades. Going far back, to the Hippocratic time, the portrayal of BD can be found in the Hippocratic third book of endemic disease. Albeit some have ordered BD among the autoinflammatory issue, it is arranged traditionally among vasculitides, and since 2012 in the Variable Vessel Vasculitis subgroup. BD was first portrayed as a disease of the Silk Road. Be that as it may, in the new period, and because of migration relocation (increasingly visit in the new decades), the illness is seen increasingly more out of the Silk Road (1).

Behcet's disease is an autoimmune, rare, and severe multisystemic inflammatory disease. The Disease is characterized by episodic inflammations which may affect every tissue and organ of the body. Joints, gastrointestinal tract, nervous system, and others. Generally, Behcet's disease is a secondary occlusive systemic vasculitis, which affects both arteries and veins of all sizes and tissue types (2).

Joint symptoms are well-recognized features of this syndrome and are usually described as an intermittent, self-limiting, non-destructive arthritis involving the peripheral larger joints. Despite these features, the arthropathy of Behcet's disease is sometimes unrecognized and erroneously regarded as rheumatoid arthritis or one of the other arthropathies. The prevalence of arthropathy in Behcet's disease is quite variable according to previous reports ranging from 5 to 70 percent (3).

Methodology

A cross-sectional retrospective study including 108 patient with Behcet's disease visited the Rheumatology Clinic at King Hussein hospital for follow up from March 2016 to March 2017. Each of the patients was asked to fill out a questionnaire of personal data including age and gender. The specific questions regarding the oral ulcers, genital

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ulcers, skin lesions, joint involvement, CNS involvement, and medications were filled by physicians by revision the medical records for each patient. Patients had met the International Study Group criteria for the diagnosis of Behcet's Disease. As all the values were categorical so compared by the chi-square test using SPSS 23 was used.

Results

In all, 108 patients with Behcet's disease were seen in the clinic during the one-year period of the study. Their mean age at the time of assessment was 30.8 years (range 16 to 60), there were 86 men (79.6%) and 22 women (20.4%) see table (1) and (2) respectively.

Prevalence of arthropathy was 14.8% see table (3). 15 patients of these 16 patients were males, and all of them were less than 40 years of age. Neither gender nor age had a statistical significance with P-values 0.129, 0.288 respectively as illustrated in tables (4) and (5)
By comparing Behcet's disease manifestations with arthropathy, there were no manifestations had a significant relation with arthropathy as the table (6) illustrating.

Patients used colchicine had statistically lesser arthropathy manifestations than patient not on colchicine (P-value= 0.026). while steroids, DMARDs, and biologics had no significant effect. Table (7)

Table (1): Age

	N	Minimum	Maximum	Mean	Std. Deviation
Age (years)	80	16	60	30.86	8.097
Valid N (listwise)	80				

Table (2): Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	86	79.6	79.6	79.6
	female	22	20.4	20.4	100.0
	Total	108	100.0	100.0	

Table (3): Arthropathy prevalence

Arthropathy

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	92	85.2	85.2	85.2
	1	16	14.8	14.8	100.0
	Total	108	100.0	100.0	

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Table (4): Gender vs. Arthropathy

			arthropathy		
			no	yes	Total
gender	male	Count	71	15	86
		% within gender	82.6%	17.4%	100.0%
		% within arthropathy	77.2%	93.8%	79.6%
		% of Total	65.7%	13.9%	79.6%
	female	Count	21	1	22
		% within gender	95.5%	4.5%	100.0%
		% within arthropathy	22.8%	6.3%	20.4%
		% of Total	19.4%	0.9%	20.4%
Total		Count	92	16	108
		% within gender	85.2%	14.8%	100.0%
		% within arthropathy	100.0%	100.0%	100.0%
		% of Total	85.2%	14.8%	100.0%

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Table (5): Age vs. Arthropathy

			arthropathy		
			no	yes	Total
age	<40 yrs	Count	63	9	72
		% within age	87.5%	12.5%	100.0%
		% within arthropathy	88.7%	100.0%	90.0%
		% of Total	78.8%	11.3%	90.0%
	≥40 yrs	Count	8	0	8
		% within age	100.0%	0.0%	100.0%
		% within arthropathy	11.3%	0.0%	10.0%
		% of Total	10.0%	0.0%	10.0%
Total		Count	71	9	80
		% within age	88.8%	11.3%	100.0%
		% within arthropathy	100.0%	100.0%	100.0%
		% of Total	88.8%	11.3%	100.0%

Table (6): Behcet's disease manifestations vs Arthropathy

	Oral ulcers		**Genital ulcers**		**Skin lesions**		**Eye disease**		**HLA B-5**		**Vascular involvement**		**CNS involvement**	
	Yes	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**no**	**Yes**	**No**	**Yes**	**No**
arthropathy														
Yes	**16**	**0**	**11**	**68**	**6**	**10**	**3**	**13**	**8**	**8**	**2**	**14**	**1**	**15**
NO	**92**	**0**	**5**	**24**	**43**	**49**	**23**	**69**	**46**	**46**	**28**	**64**	**12**	**80**
P-value	**1.0**		**0.667**		**0.493**		**0.589**		**1.0**		**0.139**		**0.441**	

Table (7): significance of medications

	Steroids		**Colchicine**		**DMARDs**		**Biologics**	
Arthropathy	**Yes**	**no**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**
Yes	**13**	**3**	**15**	**1**	**6**	**10**	**1**	**15**
No	**52**	**40**	**61**	**31**	**42**	**50**	**6**	**86**
P-value	**0.62**		**0.26**		**0.545**		**0.967**	

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Discussion

There are numerous reports on the clinical manifestations of BD from various parts of the world. Clinical manifestations differ in those reports. Because of these differences, some authors think BD is a syndrome as opposed to a disease. Joint involvement in BD has been known throughout the years. There have been several articles analyzing arthropathy in BD. The joint involvement found in the greater part of the subjects had not been considered among the essential criteria by any agent until O'Duffy did. Nonetheless, O'Duffy utilized clinical findings, seen over half, as essential criteria. Therefore, arthritis was mentioned to be the primary finding in BD for the first time. Despite the fact that joint inflammation in BD was referenced generally in Mason and Barnes' article in 1969, it was utilized as a minor standard. Arthritis is a common finding in BD, and its frequency ranging from 40% up to 70%. Such a wide frequency of joint involvement because the questionnaires were used to obtain the information regarding joint symptoms, and they also employed a broad concept, "arthropathy", rather than inflammatory arthritis. In addition, the reason why there is hesitation to use arthritis among the primary criteria, to us, maybe because complaints about joints in society are very common, and therefore, investigators hesitate to consider these complaints and findings among the symptoms of the Illness (4).

Subjects with arthritis in BD predominantly present with recurrent, self-limited, nondeforming and non-erosive, inflammatory asymmetric mono-oligoarthritis, affecting most frequently the larger joints such as knees, wrists, ankles, and elbows. Erosive forms of arthritis in BD have been reported in only a small number of cases, and the most affected locations are axial joint (sacroiliac), enthesis (calcaneal), and peripheral joints such as metatarsophalangeal and interphalangeal joints of the feet and intercarpal and metacarpophalangeal joints of the hand, wrist, and knee. Clinical hand involvement in BD was investigated extensively in a study where the prevalence of hand involvement in the disease was found to be high. They also found that the terminal phalangeal tuft resorption that might be related to a specific pattern induced by the vasculitic process due to the repeated digital infarcts, and the rheumatoid-like hand findings were the most frequent hands in patients with BD (5).

Our study aimed to analyse the correlation between arthropathy in patients with Behcet's disease and another manifestation of Behcet's disease. As the result above showed no correlation between arthropathy and another manifestation of Behcet's disease. And there was no relationship between arthropathy with gender or age.

Another part of our study was to clarify the effect of treatment modalities on the arthropathy. Neither steroids and DMARDs nor biologics had a significant effect on arthropathy prevalence in patients with Behcet's disease. The only treatment modality that decreased arthropathy prevalence significantly was colchicine.

Colchicine is an alkaloid which is used in several inflammatory diseases especially in gout, FMF and Behçet's disease. Colchicine was the first drug known to bind tubulin. Evidence has been presented for the interaction of colchicine with both α and β tubulin monomers. Following this interaction, colchicine induces a conformational change which prevents curved tubulin from adopting the straight structure needed for the assembly with other tubulin monomers in order to form the whole microtubule. Thus, colchicine may inhibit tubulin assembly thereby destabilizing the microtubules (6). Colchicine is the most frequently prescribed medication for the treatment of mucocutaneous manifestations of BD. Colchicine is effective in the treatment of joint symptoms as well as in the management and prevention of erythema nodosum in patients with Behcet's disease (7).

Conclusion

In conclusion, arthropathy is a fairly common manifestation in patients with Behcet's disease. And no correlation between arthropathy and another manifestation of Behcet's disease. Colchicine the only treatment modality that affects the prevalence of arthropathy in Behcet's disease.

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