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ORIGINAL ARTICLE

Characteristics of Ankylosing Spondylitis patients living in Qatar



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KEYWORDS

Ankylosing spondylitis; HLA B27; BASDAI; BASFI; Biologics; DMARDs **Abstract** Aim of the work: To study the clinical, laboratory and radiographic characteristics of ankylosing spondylitis (AS) patients living in Qatar.

Patients and methods: Sixty-two consecutive AS patients including 4 Qataris were enrolled. The Bath Ankylosing Spondylitis Disease Activity Index (BASDAI), Bath Ankylosing Spondylitis Functional Index (BASFI) and AS quality of life (ASQoL) scores were calculated. Inflammatory markers, human leukocytic antigen-B27 (HLA-B27), plain x-rays and magnetic resonance imaging of the sacroiliac joint and spine were considered.

Results: Mean age at symptom onset was 25.9 ± 7.3 years and at diagnosis 32.3 ± 8.4 years with an average delay in the diagnosis of 6.4 years. The male-to-female ratio was 5.2:1. Arabs comprised 40.3% while 59.7% were non-Arabs. HLA-B27 was positive in 80.7%. Family history of spondyloarthritis was present in 16 (25.8%) patients. All patients had inflammatory low back pain. Peripheral arthritis was observed in 46.8%, heel enthesitis in 37.1% and tenosynovitis in 14.5% patients. Anterior uveitis occurred in 14.5% patients. Radiological evidence of bilateral sacroiliitis and spine involvement was observed in 83.3% and 59.7% patients respectively. Mean erythrocyte sedimentation rate and C-reactive protein were 20.3 ± 14.2 mm/hr and 11.4 ± 11.8 mg/L respectively. Mean BASDAI, BASFI and ASQoL were 3.3 ± 1.8 , 2.9 ± 2.1 and 6.5 ± 5.2 respectively. Twenty-eight patients (45.2%) were maintained on NSAIDs monotherapy, 14.5% were receiving DMARDs and 40.3% were on biologics.

Conclusion: The characteristics of AS patients in Qatar are revealed. Similar to others, there is male predominance. Disease activity and functional status were found to be low which may be due to high frequency of patients receiving biologics.

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1. Introduction

Ankylosing spondylitis (AS) is the prototype of group of chronic inflammatory diseases called spondyloarthritides (SpA) [1] and affects predominantly axial skeleton causing characteristic inflammatory low back pain (iLBP). Sacroiliac joints are the main joints involved in AS patients while peripheral arthritis, enthesitis and tenosynovitis are other musculoskeletal manifestations of this chronic debilitating disease [2]. The extra articular manifestations of AS include anterior uveitis, inflammatory bowel disease, cardiac abnormalities and apical fibrosis of lungs [3,4].

Diagnosis of AS is usually delayed resulting in a gap of several years between the onset of symptoms and actual diagnosis of disease. Delayed diagnosis could be attributed to the low awareness among non-rheumatologists about AS, increased frequency of chronic low back pain among population and the late appearance of radiological evidence of sacroiliitis in the disease course [5]. Ankylosis of the spine will eventually result in structural and functional impairments and a decrease in quality of life (QoL) [6].

A few studies were conducted on the characteristics of AS in the Middle East [7–10]. The aim of this study was to explore the characteristics of ankylosing spondylitis in patients living in Qatar, record the medications used and measure the disease activity and effect of disease on the QoL.

2. Patients and methods

This cross sectional study was conducted in the outpatient of the rheumatology department at Hamad General Hospital in Doha Qatar during the period from March 2014 to February 2015. All those patients who are above age 18, fulfilled the assessment of SpondyloArthritis International Society (ASAS) classification criteria for axial spondyloarthritis [11] and signed the consent form were included in the study. The study conforms to the 1995 Helsinki declaration and was approved by the ethics committee of Hamad General Hospital. Demographic data and clinical characteristics of disease were taken from each patient including age at onset of disease, age at diagnosis of disease, peripheral joint involvement, occurrence of enthesitis, tenosynovitis and extra articular manifestations. Patients were interviewed about their initial treatment and current treatment was retrieved from the patients' files.

The Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) [12], Bath Ankylosing Spondylitis Functional Index (BASFI) [13] and AS quality of life (ASQoL) questionnaire [14] were calculated at the time of encounter with patients.

The radiographic data of sacroiliac joint, human leukocytic antigen-B27 (HLA-B27) status and inflammatory markers including the erythrocyte sedimentation rate (ESR) and Creactive protein (CRP), which were done within a week period before patient interview, were recorded from the electronic medical record of patients. Results of plain x-rays and magnetic resonance imaging (MRI) of spine, which were ordered by primary physician before interviewing patients, were taken from electronic medical records of all patients. Squaring of vertebrae, presence of syndesmophytes, and calcification in spinal ligaments, bamboo spine, facet joint involvement and bone marrow edema on MRI were considered as part of spinal involvement due to AS.

Statistical analysis: Categorical and continuous values were expressed as frequency (percentage) and mean \pm SD or median and range as appropriate. Descriptive statistics were used to summarize demographic, epidemiological, laboratory, radiographic and other clinical characteristics of the patients. Association between two or more qualitative variables (various clinical and laboratory features with demographic parameters gender and ethnicity) were compared using Chi-square test or Fisher's exact test as appropriate. Quantitative data between the two independent groups (HLA-B27 positive and negative) were analyzed and compared using unpaired 't' and Mann-Whitney U tests as appropriate. Relationships between two quantitative variables were examined using Pearson's correlation coefficients. All P values presented were two-tailed, and P values < 0.05 were considered statistically significant. All Statistical analyses were done using statistical packages SPSS 22 (SPSS Inc. Chicago, IL).

3. Result

Demographic characteristics of the AS patients are presented in Table 1. 62 patients were enrolled during a one-year period. There were 52 males (83.9%) and 10 females (16.1%). Male to female ratio was 5.2:1.Twenty-five (40.3%) patients were Arabs and 37 (59.7%) were non-Arabs (Table 1). Mean age at onset of symptoms was 25.9 ± 7.3 years and mean age at diagnosis of AS was 32.3 ± 8.4 years with an average delay

Table 1 patients.	Demographic features of the ankyle	osing spondylitis
Feature n (%)		AS patients $(n = 62)$
Gender	Male	52 (83.9)
	Female	10 (16.1)
	M:F	5.2:1
Ethnicity	Arabs	25 (40.3)
	Egyptian	10 (40)
	Jordan	4 (16)
	Qatari	4 (16)
	Syrian	2 (8)
	Lebanese	2 (8)
	Tunisian	1 (4)
	Iraqi	1 (4)
	Sudanese	1 (4)
	Non Arabs	37 (59.7)
	Indian	12 (32.4)
	Pakistani	8 (21.6)
	Bangladeshi	7 (18.9)
	Nepali	5 (13.5)
	Philippines	2 (5.4)
	Afghani	1 (2.7)
	French	1 (2.7)
	Mauritanian	1 (2.7)
Age at symptom onset (yr)		$25.9~\pm~7.3$
Age at diagnosis (yr)		32.3 ± 8.4

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