The clinical presentation of spondyloathropathy in a single Rheumatology centre.

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Abstract

Objective: This study aimed to describe the common presentation of spondyloathropathies patients in a single Rheumatology centre at Hospital Raja Permaisuri Bainun, State of Perak, Malaysia. Method: This cross-sectional study was conducted in a single center rheumatology clinic between 2010 and 2013. A total of ninety five spondyloarthropathy patients were randomly sampled and included in this study where the patients were diagnosed by rheumatologist based on the established diagnostic classification criteria. The demographic and clinical data of the selected patients were obtained from clinic records. Results: A total of ninety-one spondyarthropathy patients were selected with male to female ratio were comparable and Malays ethnicity is more predominant (50%). The mean age was 42 years old with peak age ranging between 38-47 years (34.7%). Our findings described that low back pain is presented in all the AS patients (100%). In addition, peripheral arthritis is common in AS (26%), PsA (98.4%) and ReA (50%) patients, respectively. Meanwhile, psoriasis is common in PsA (100%) patients but not found to be presented in AS and ReA patients. Conclusions: The commonest SpA encountered in this rheumatology centre are PsA and AS with female and male preponderance respectively. Peripheral arthritis is a common clinical presentation in both AS and PsA patients. Our results further described that psoriasis is the commonest clinical presentation in PsA patients but not in AS and ReA patients.

Keywords: Spondyloathropathy, Clinical manifestations.

Accepted on February 10, 2017

Introduction

Spondyloathropathy (SpA) is comprises a group of multisystem inflammatory diseases affecting various joints including spine, peripheral joints and periarticular structures including extra-articular involvement [1]. Nevertheless, they share common clinical and genetic predisposition i.e. HLA-B27 and negative rheumatoid factor (hence synonymously named seronegative SpA). These are ankylosing spondylitis (AS), psoriatic arthritis (PsA), reactive arthritis (ReA), Undifferentiated SpA (USpA) and enteropathic arthritis (Crohn's and ulcerative colitis).

The prevalence of Spondyloathropathy differs from various countries as it is multi-factorial. It was estimated less than 1% in United State and France [2,3]. Previously Spondyloathropathy had been called umbrella term as it been said to be related with many speculations such as to lump or to split the different type of illnesses. Two established international criteria in classifying Spondyloathropathy which has been used widely as a reference i.e. European Spondyloathropathy Study Group (ESSG) and Assessment of Spondyloarthritis International Society (ASAS) [4,5].

SpA commonly affecting young and productive adult, and has great impact on socio-economic and quality of life of such individual. Multi-ethnicity population in Malaysia may provide additional information that may differ from other part of the continents. This study may provide the substantial information of this conditions for more comprehensive research in near future in Malaysia.

Objective

The aim of this study was to evaluate the demographic characteristic and common clinical manifestations of spondyloarthropathic patients in a single tertiary rheumatology centre of Hospital Raja Permaisuri Bainun Ipoh, Malaysia.

Materials and Methods

This is a cross sectional study involving single rheumatology centre at Raja Permaisuri Bainun Hospital in Perak State, Malaysia. A total of 95 patients visiting the rheumatology outpatient clinic between January 2010 and December 2013 were included in this study. All the patients were clinically diagnosed and evaluated by a rheumatologist as sero-negative spondyloarthropathies (SpA). The classification of the patients as ankylosing spondylitis (AS), Psoriatic Arthritis (PsA), Reactive Arthritis (ReA) and enteropathic arthritis diseases was in accordance to the European Spondyloarthropathy Study Group (ESSG), Assessment of SpondyloArthritis (ASAS), and Classification Criteria for Psoriatic Arthritis (CASPAR) [6].

We included only sero-negative patients with available clinical record in this study. The clinical data including the socio-demography, common presentation of SpA, non-systemic manifestations and radiological findings of the patients were collected using a standard checklist.

The study was approved by the Medical Research and Ethics Committee (MREC), Ministry of Health, Malaysia.

Statistical analysis

Descriptive analysis was performed to describe the SpA according to socio-demography, common presentation, non-systemic manifestation and the radiological findings.

Results

Our data demonstrated that of the ninety-one sero-negative SpA patients, 52.7% were men and 47.3% were women. There was a male preponderance in AS disease group (91.3%), while female preponderance in PsA (57.2%) and ReA (100%) disease groups (Table 1).

Overall, Malay ethnic group was predominant (50.5%) followed by Chinese and Indian (24.2%), and others (Table 1). Interestingly, Chinese is predominant in AS disease group (52.2%), followed by Malay (43.5%) and very rare in Indian (Table 1). On contrary, Malay is predominant in the PsA disease group (50%) followed by Indian (32.8%) and Chinese (15.6%). Mean age was 42 years old with peak age ranging between 38 and 47 years (34.7%). Due to sample size in the ReA group, all the selected patients were females.

Low back pain was significantly present in AS patients but not presented in the other two groups although spondylitis may complicate PsA, ReA or inflammatory bowel disease (IBD) in later life. The Human Leukocyte Antigen B*27 (HLA-B*27) testing was only tested in 10 AS patients. Out of the fourteen patients, 6 patients (60%) were positive HLA-B*27. In addition, two out of the three ReA patients were also positive for HLA-B*27.

Peripheral arthritis is more common in all the three patients group of SpA especially in psoriatic with the psoriatic rash was present in all the PsA but not in AS and ReA patients (Table 2).

The mean age of onset of psoriasis was 35 years old and progressed to develop arthritis nine years later. Our results demonstrated, few patients with arthritis preceded psoriasis for duration as longer as 12 years before diagnosis with arthritis (data not shown). Patient presented commonly with pauciarticular joints involvement (82.8%) than monoarticular (17.2%). Distal interphalangeal joint (DIP) and asymmetrical pattern occurred in approximately half of the PsA patients. Spondylitis and mutilans complicates in 10.9% and 6.3% of PsA respectively (Table 3).

Radiographic sacroilitis and advance syndesmophytes (bamboo spine) concurrently reported in 7% of AS patients. However, sacroilitis present early in most of patients. Bamboo spine changes alone without evidence of sacroilitis appeared to be high. There were no radiographic changes in 21% of AS patients and neither plain radiograph nor magnetic resonance imaging (MRI) were performed in 14% of patients. It was found that AS took as minimum as 5 years before seeking their first medical attention for the illness (Table 3).

Table 1. *Socio-demographic characteristic of Spondyloathropathy.*

	AS (n=23)	PsA (n=64)	ReA (n=4)
Gender			
Male, n (%)	21(91.3)	27(42.8)	0
Female, n (%)	2(8.7)	37(57.2)	4(100)
Ethnicity			
Malay	10(43.5)	32(50)	4(100)
Chinese	12(52.2)	10(15.6)	0
Indian	1 (4.3)	21(32.8)	0
Others	0	1(1.6)	0
Education level			
Primary school	1(3.6)	4(6.3)	0
Secondary school	3(10.7)	9(14.1)	1(25)
Tertiary institution	9(32.1)	28(48.8)	3(75)
Missing data	10	23	0
Age group (years)			
18-27	4 (14.3)	7(10.9)	3(75)
28-37	6(2.1)	9(14.1)	1(25)
38-47	7(30.4)	24(37.5)	0
48-57	3(13)	18(28.1)	0
68-77	3(13)	4(6.2)	0
>78	0	2(3.1)	0
Mean age of onset +/- SD = 42+/-12 years old			

Table 2. *Common presentation of Spondyloathropathy according to Assessment of Spondyloarthritis Society (ASAS) criteria.*

ASAS criteria	AS n=23	PsA n=64	ReA n=4
Low back pain	23(100%)	Nil	Nil
HLA-B27			
Positive	6 (6.6%)		2(2.2%)
Negative	4 (4.4%)	Nil	1(1.2%)
Not tested	13		1
Enthesitis	3 (3.3%)	1(1.1%)	Nil
Tendinitis	Nil	7(7.7%)	Nil
Episcleritis	Nil	1 (1.1%)	Nil
Peripheral Arthritis	6 (26.1%)	63(98.4%)	2(50.0%)
Family History of SpA	1 (4.3%)	3(4.7%)	Nil
Dactylitis	Nil	18(28.1%)	Nil
Psoriasis	Nil	64(100%)	Nil

Table 3. *Psoriasis arthritis and ankylosing spondylitis: Non-systemic manifestation.*

	Mean ± SD	n (%)
Psoriatic Arthritis (PsA)		
Age of onset (years)		
Psoriasis	35 ± 13	
arthritis	44 ± 11	
Duration (years) of		
psoriasis preceded by arthritis	9 ± 6	3(4.7)
arthritis preceded by psoriasis	12 ± 15	50(78.1)
psoriasis simultaneously with arthritis	2 ± 5	9(14.1)
CASPAR Classification		
Monoarticular		11(17.2)
Pauciarticular		53(82.8)
Distal interphalangeal joint affected	-	53(82.8)
Asymmetrical involvement		34(53)
Spondylitis		7(10.9)
Arthritis mutilan		4(6.25)
Ankylosing Spondylitis (AS)		
1. Symptoms		
Low back pain	-	8(34.8)
Stiffness of the back	-	1(4.34)
Both symptoms	-	18(78.3)
2. Radiological changes in Ankylosing Spondylitis		
Sacroilitis		8(29)
Bamboo spine	-	8(29)
Both (sacroilitis and bamboo	-	2(7)
spine)		6(21)
No changes	-	4(14)
3. Average duration before patient seek for treatment	-	5 ± 8 years

Discussion

This study demonstrated that SpA is more preponderance to male which is similar to that of the previous study [7,8]. Based on published report, Spondyloathropathy is more common in Caucasian than Asian [9]. Despite of different geographical set up, this study found that more Malay being diagnosed to have SpA followed by Chinese, and Indian. This study however was based on data from single tertiary rheumatology centre in one of the states of Malaysia in which the Malay ethnic account for 54% out of total population [10]. Age of onset of symptoms showed in this study is comparable to that documented in other established studies.

Literacy level has been one of the important indicators for early detection of illness. More awareness on health status occurs among those with good education background. In this study, majority of the patient had received higher education but inadequacy of data input had hampered the results. Although no correlation between level of education and the diagnosis of SpA, this crucial element is believed to be important on assessing the understanding of patient about their illness.

HLA-B27 test may support the clinical evidence, albeit not for diagnostic purposes. However, study on the subset of the HLA may otherwise assist in determination of genetic predisposition risk of developing AS in particular and to which ethnic group. Unfortunately, it is not routinely being performed due to various circumstances including cost. Although SpA is variably associated with human leukocyte antibody B27 (HLA-B27) only minority will have this gene and those carriers will not eventually develop spondylitis [11-14].

Dactylitis or "sausage finger" as it well described, is due to inflammation of the digit which is particularly occur in PsA patient as shown significantly in this study. Although nail changes were not documented, it is part of skin enthesis with continuation of the root of the nail [15,16]. Peripheral arthritis in AS, and ReA are not as common as in PsA which was the majority in this study with asymmetrical pattern being the commonest to distinguished from classical rheumatoid arthritis (RA). Pauci and monoarticular involvement in PsA patient in this study are classically described in previous review [17]. However, DIP joint involvement only present in less than half of PsA patients. The presents of arthritis mutilan and spondylitis are noted in some of the studied PsA patients. This clinical deformities, although rare, may indicate the progress of the disease whereby one of the predictors are the polyarticular involvement, delayed or suboptimal or abnormally higher dose of medication required in the treatment [18,19]. Over time, articular involvement may occur preceded by psoriatic skin rash in majority of cases and 15% of patients either presents with arthritis first or concomitant skin symptoms. However, this association varied in this study although higher prevalence of psoriasis preceded arthritis was relatively comparable with previous studies [17].

Unexplained low back pain has been found early symptoms in AS in this study. Back ache and stiffness in all studied patient with AS demonstrate consistency with that of established reports regarding Ankylosing Spondylitis [20]. The curious cause of the pain and stiffness is actually due to the inflammatory process which may indicate axial spondyloarthritis and not mechanical. The description of the back pain is insidious onset, dull and always starts deep in the gluteal region.

Radiographic imaging play an important diagnostic tool especially in AS especially in very early stage of the disease involving the spine such as sacroilitis associated with axial SpA [21]. ASAS has recommended that only the presence of bone marrow oedema on STIR sequences and osteitis on the T1 weighted gadolinium as the fundamental feature of sacroiliitis [22]. In this study, due to late presentation or delayed referral, patients commonly presented with both sacroilitis and bamboo spine. However, though the former is common as first presentation, majority of patients has had advance syndesmophytes by the time they were referred to rheumatologist.

Clinical manifestations show heterogeneity among different SpA group as this may attributed to number of patients in each group. Though in previous literatures revealed that SpA shares most of the common clinical manifestations and genetic predisposition, due to circumstances in different clinical setting, these features may not be manifested as what it should be expected.

The results of this study may be affected by various reasons, due to multi ethnicity with different socio-economic perception, such as accessibility of health care facilities, cost, diagnosis discrepancy, variability in standard of care and treatment for such conditions resulted in delayed diagnosis and referrals.

Conclusion

This debilitating condition is more common in male rather than female with Malays ethnic showed propensity in this study setting. The demographic data were comparable without significant correlation. The significant common presentations of SpA are low back pain, peripheral arthritis, carriers for HLA-B27, dactylitis and Psoriasis. More comprehensive study including extra-articular manifestation as well as identification of genetic biomarkers study, axial disease in non-AS SpA in different ethnic groups may provide better diagnostic and therapeutic modalities for this condition in future.

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