Disease Characteristics of Filipino Ankylosing Spondylitis Patients in Metro Manila Rheumatology Clinics

Ma. Lucila Dianongco, M.D.*; Marc Gregory Yu, M.D.** and Ester Penserga, M.D.*

Abstract

Objectives: The study aims to describe the disease characteristics of Filipino patients diagnosed with ankylosing spondylitis (AS) in different rheumatology clinics in Metro Manila, Philippines.

Methods: The study retrospectively reviewed the records of all Filipino AS patients aged 18 years old and above, diagnosed by the Rome Criteria and seen from January 2000 to May 2012 at the rheumatology outpatient clinic of the Philippine General Hospital and in different rheumatology clinics in Metro Manila. Demographics, joint manifestations, radiographic findings, and medications were described and tabulated. Descriptive statistics included mean and standard deviation for quantitative variables and frequency and percentage for qualitative variables. .

Results: Forty-seven Filipino AS patients were included in the study. The male to female ratio was 46:1. The mean age at diagnosis was 33.2 +/- 10.93 years while the mean disease duration was 7.04 +/- 4.28 years. Seven (14.8%) patients had a family history of AS while twelve (70.6%) tested positive for HLA-B27. The lumbar spine was the most commonly affected site in the majority (80.9%) of subjects. A significant number of participants (70.2%) also had peripheral joint involvement, with the knee being the most common peripheral joint involved (72.7%). In terms of imaging, sacroiliitis was found in the majority (87.5%) of patients. All patients received standard rehabilitation exercises and almost all (97.9%) were on NSAIDs. Nine (19.1%) patients each received opioids and DMARD therapy, while eight (17%) received anti-TNF therapy.

Conclusion: Filipino patients with AS are mostly young males presenting with chronic lumbar pain and HLA-B27 positivity. The data gathered in this study may help local physicians identify AS early in affected patients, giving them access to early intervention and thereby preventing progressive structural and functional deterioration.

Keywords: ankylosing spondylitis, rheumatology, Philippines

Introduction

Ankylosing spondylitis (AS) is a chronic autoimmune spondyloarthropathy which may be associated with systemic complications.[1] It has a predilection for the spine, sacroiliac joints, and on occasion the big joints of the lower extremities. Clinically, the disease manifests as chronic and oftentimes debilitating joint and back pain with progressive limitation of spinal mobility, leading to irreversible structural changes and to impaired physical function and health-related quality of life (HRQoL.) The global prevalence of AS ranges from 0.1-1.4% with geographic, racial, and ethnic differences.[2] The onset is usually in young adulthood. Men are preferentially affected and tend to have a more severe disease course.[3] HLA-B27 seropositivity, family history, and frequent gastrointestinal infections also confer increased risk for the disease.[4]

Published data on the prevalence of rheumatic diseases in the Philippines previously did not detect AS in the general population.[5,6,7] However, an unpublished study by Ngo, JD and Navarra, SV entitled "Demographic and clinical features of ankylosing spondylitis among Filipinos", presented thirty Filipino AS patients in a single tertiary center and found the mean age of the patients to be 29.73 years, with an approximately five-year mean duration from symptom onset to diagnosis. Most of the study subjects presented with low back pain and stiffness (63%), while others manifested with knee, shoulder, ankle (23%) and hip (13%) pain. Another study on twenty-four Filipino AS patients found significant correlations between the disease activity, functional capacity, and HRQoL of these patients.[8] As the course of AS is generally persistent for several decades, rarely entering long-term remission, patients with the disorder face a lifetime of progressive structural deterioration and associated pain and functional disability.[9] The relative lack of published studies on AS in the Philippines reflects the low rate of early identification and timely referral of these patients. Data obtained from this study can serve to assist local physicians in acquiring a high index of suspicion and identifying the disease early in affected patients, allowing them access

*Section of Rheumatology, Department of Medicine, Philippine General Hospital
**Section of Endocrinology, Diabetes, and Metabolism Department of Medicine, Philippine General Hospital

Corresponding Author: Marc Gregory Yu, M.D., Philippine General Hospital, Manila, Philippines
Email: marcgreggy@yahoo.com

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to early intervention and thereby preventing progressive structural and functional deterioration.

Objective

The study aimed to describe the disease characteristics of Filipino patients diagnosed with AS in different rheumatology clinics in Metro Manila, Philippines.

Methods

All Filipino AS patients aged 18 years old and above, diagnosed by the Rome Criteria and seen from January 2000 to May 2012 at the rheumatology outpatient clinic of the Philippine General Hospital as well as in different arthritis clinics in Metro Manila, were included. Those currently or previously diagnosed with undifferentiated spondyloarthritis, psoriatic arthritis, reactive arthritis, enteropathic spondyloarthritis, spondylosis, stiff man syndrome, and movement disorders were excluded. A systematic and thorough search of outpatient logbooks, censuses, and clinic files was performed for records of eligible subjects, which were reviewed for demographic characteristics, joint manifestations, radiographic findings, and management plans. Descriptive statistics included mean and standard deviation for quantitative variables and frequency and percentage for qualitative variables.

Results

Forty-seven patients were included in the study, with a male to female ratio of 46:1. The mean age at diagnosis was 33.2 +/- 10.93 years while the mean disease duration was 7.04 +/- 4.28 years. Seven (14.8%) patients had at least one first-degree family member with AS, and more than half (70.6%) of those tested were HLA-B27 positive. The mean body mass index (BMI) of the study subjects was 23.98 +/- 4.01 kg/m^2 while the mean erythrocyte sedimentation rate (ESR) was 37 +/- 12.49 mm/h. The results of the patients' demographic characteristics are summarized in Table I.

In terms of joint involvement, the lumbar spine was the most commonly affected site in the majority (80.9%) of subjects, while about half (46.8%) had cervical spine involvement. A significant number of the participants (70.2%) also had peripheral joint involvement, the most common of which are the knees (51.1%), shoulders (25.5%), and hips (23.4%.) Around two-thirds (68.1%) of the subjects tested positive with the Schober's test. Table II summarizes the results of the different joint manifestations found in the study patients.

Only about a third of the study subjects underwent imaging. Of these, a significant majority (87.5%) manifested with sacroiliitis on plain radiographs; this was found, too,

in the single patient who underwent magnetic resonance imaging (MRI). Other notable radiographic manifestations included squaring of lumbar vertebrae (16.7%), sclerosis

Table I. Demographic Characteristics (n=47).

Characteristics	Results
Mean age at diagnosis (year, SD)	33.24 +/- 10.93

Sex
    Male – number (%)
    Female – number (%)
	
	46 (97.9%)
	1 (2.1%)

Mean disease duration (year, SD)	7.04 +/- 4.28
Mean BMI (kg/m^2, SD)	23.98 +/- 4.01
HLA-B27 positivity – number (%)	12/17 (70.6%)
Positive family history – number (%)	7 (14.8%)
Mean erythrocyte sedimentation rate (n=24; mm/h, SD)	37 +/- 12.49

Table II. Joint Involvement (n=47).

Joint affected – number (%)	Results
Lumbar spine	38 (80.9%)
Cervical spine	22 (46.8%)
Peripheral joints	33 (70.2%)
Knees	24 (51.1%)
Shoulders	12 (25.5%)
Hips	11 (23.4%)
Ankles	9 (19.1%)
Wrists	5 (10.6%)
Proximal interphalangeal joints	4 (4.3%)
Positive Schober's test – number (%)	32 (68.1%)

Table III. Radiographic Characteristics.

Radiographic Test	Results
X-ray – number (%)	
Sacroiliitis	13/18 (87.5%)
Squaring of lumbar vertebrae	3/18 (16.7%)
Sclerosis	2/18 (11.1%)
Erosions	2/18 (11.1%)
Syndesmophytes	1/18 (5.6%)
Enthesophytes	1/18 (5.6%)
Magnetic Resonance Imaging – number (%)	
Sacroiliitis	1/1 (100%)

Table IV. Management (n=47).

Management	Results
Non-Pharmacologic – number (%)	
Physical therapy and rehabilitation	47 (100%)
Pharmacologic – number (%)	
NSAIDs	46 (97.9%)
DMARDs	9 (19.1%)
Methotrexate	6 (12.8%)
Sulfasalazine	3 (6.4%)
Anti-TNF therapy	8 (17%)
Etanercept	7 (14.9%)
Infliximab	1 (2.1%)
Tramadol	6 (12.8%)
Combination tramadol and paracetamol	3 (6.4%)
Baclofen	1 (2.1%)
Cyclophosphamide	1 (2.1%)

and erosions (11.1%), and the presence of syndesmophytes and enthesophytes (5.6%). The various radiographic findings found in the study subjects are summarized in Table III.

The overall management of AS patients included physical therapy and rehabilitation exercises (100%) and NSAIDs (97.9%). Nine (19.1%) patients received disease-modifying anti-rheumatic drugs (DMARDs), with methotrexate being the most common DMARD administered (12.8%). Nine patients also received opioids in the form of either tramadol (12.8%) or combination tramadol and paracetamol (6.4%). Meanwhile, eight (17%) patients were started on anti-tumor necrosis factor (TNF) alpha therapy – consisting of etanercept in seven (14.9%) patients and infliximab in one patient. Table IV summarizes the pharmacologic and non-pharmacologic treatment of these patients.

Discussion

Our study described the disease characteristics of Filipino AS patients in different rheumatology clinics in the country. The relatively low number of patients – 47 – seen over a twelve-year period reflects either the generally perceived low incidence of the disease in the country or merely a low index of suspicion among local physicians leading to under-diagnosis. The latter reason highlights the need for more studies to raise awareness regarding the different presentations of AS in Filipinos.

The overwhelming predominance of male patients in the study is consistent with the observed higher prevalence of AS in men.[3] The mean age at diagnosis, however, was slightly higher than that cited in foreign literature and can be explained by several reasons.[4] First, a possible delay in the time to diagnosis can be due to the difficulty in diagnosing AS in its early stages, particularly when the index of suspicion is low and also when the presenting symptoms suggest an alternative form of arthritis.[10] Second, patients in the Philippines are likely to consult traditional healers and similar alternative forms of medicine for musculoskeletal complaints prior to seeking medical advice, stressing the importance of greater public awareness and patient education in improving prompt diagnosis.[11]

The presence of family history and a positive HLA-B27 in the majority of participants confirms the established role of genetics in disease development. In particular, the HLA-B27 subtypes that might possibly predominate in the Philippines include B2705 and B2706, which are both linked to endemic bacterial pathogens such as Salmonella, Shigella, and Chlamydia and may, therefore relate to the high prevalence of infectious diseases in the country.[12]

The lumbar spine was revealed to be the most common joint affected. This correlates with the positive Schober's test

found in most participants and is consistent with the typical disease presentation of chronic low back pain.[13] The high incidence (70.2%) of peripheral joint involvement is consistent as well with findings in Singaporean-Chinese patients and may suggest the fact that Asians as a whole seem to have a higher incidence of peripheral arthritis as compared to their Caucasian counterparts.[1,11] The high mean BMI of the study subjects may have contributed to the development of knee arthritis, for which obesity is already an established risk factor.[14] Conversely, a high mean BMI can likewise be explained by the physically incapacitating nature of the disease, thus hindering patients from performing necessary physical exercises.

The fact that only a third of AS patients had some form of radiologic evaluation reflects the current lack of access to proper medical facilities in the country. In those who underwent imaging studies, sacroiliitis was the most common finding. It is a well-known hallmark of the disease and is usually the first radiologic manifestation, being characteristically bilateral and symmetrical in AS.[15] Plain radiographs, however, may appear normal early in the disease; hence, MRI is an ideal tool as it has better sensitivity for detecting sacroiliitis.[16]

In terms of management, it is worthwhile to note that all patients were on some form of physical therapy and rehabilitation, a key element in the overall approach to AS patients. Almost all patients, too, were on NSAIDs, which have been shown in trials to improve spinal and peripheral joint pain and function in AS.[17] Although there is little evidence to support the use of DMARDs in AS, the use of TNF inhibitor therapy has revolutionized the treatment of the disease.[18] Studies have shown rapid and substantial clinical effects from the use of these drugs, including marked persistent reduction of spinal inflammation and higher remission rates.[19] However, these drugs are also prohibitively costly, and in a resource-limited setting like the Philippines, these may not be easily accessible for indigent patients afflicted with the disease.

Conclusion

The typical presentation of AS in Filipinos is that of a young male presenting with chronic lumbar pain and HLA-B27 positivity. The data gathered in this study may help local physicians identify AS early in affected patients, giving them access to early intervention and thereby preventing progressive structural and functional deterioration. More studies on this disease are recommended in the Philippine population.

Ethical Considerations

The study was conducted in accordance with the principles of the Declaration of Helsinki regarding biomedical research. The study protocol was approved by both the technical and ethics review board of the institution prior to actual field work. We declare no conflicts of interest. No financial compensation of any kind was involved in the conduct of this study.

Acknowledgments

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