

Clinical Patterns of Psoriatic Arthritis in Jordanian Patients with Psoriasis in a Single Center from Jordan

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ABSTRACT

Objective: To investigate the clinical patterns of psoriatic arthritis in Jordanian patients presented to our Rheumatology clinic.

Methods: This is a descriptive study which included 50 well characterized patients with psoriatic arthritis, of both sexes and aged 18-75 years. Patients with psoriatic arthritis were diagnosed according to (CASPAR) classification during six years time period from Aug 2008 to Aug 2013 at our rheumatology clinic in King Hussein medical center, Amman, Jordan. Written informed consent from all participants and approval from the ethics board review committee were obtained. Demographics and psoriatic arthritis frameworks were registered.

Results: 42 patients (42/50=84%) were newly diagnosed at our clinic and eight patients (8/50=16%) were diagnosed previously as psoriatic arthritis. The most frequent significant type was polyarticular symmetrical arthritis (20/50=40%), then in decreasing order comes oligoarticular arthritis (10/50=20%) affecting mainly the knees, spondyloarthritis (9/50=18%), enthesitis and dactylitis (6/50=12%), distal interphalangeal arthritis (4/50=8%) and arthritis mutilans (1/50=2%).

Conclusions: Polyarticular pattern was the most significant frequent clinical pattern of psoriatic arthritis presentation in psoriatic Jordanian patients.

Key words: Clinical models, Jordan, Psoriatic arthritis.

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Introduction

Psoriatic arthritis is an inflammatory disorder of unknown aetiology that may affect peripheral and axial joints, correlated with psoriasis.⁽¹⁾ It includes various designs of arthritis and enthesitis in psoriatic patients or with a family history of psoriasis. It is a progressive disease ranging from mild synovitis to intense progressive erosive arthropathy. Psoriatic arthritis patients with oligoarthritis may progress to polyarthritis and most of them experience articular involvement and disfigurements which develop over time. The

clinical range of psoriatic arthritis has been nowadays widened by recently introduced items such as: pustulosis palmoplantaris with osteoarthritis sterno-clavicularis, psoriatic onycho-pachydermoperiostitis, enthesopathy and osteo-periostitis. The clinical models of psoriatic arthritis are different in different sites worldwide. The variable diversity of the clinical designs of psoriatic arthritis may cause evolving and disfiguring features if not identified and dealt with promptly.

Psoriatic arthritis occurs in 7-42% of psoriatic

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patients. Psoriatic arthritis is an inflammatory arthritis of joints and connective tissue and is correlated with psoriasis of the skin or nails.⁽²⁾ This is a reaction to group A streptococci with an autoimmune reaction in psoriatic skin plaques.⁽³⁾ This disease is autoimmune-mediated with HLA correlation (HLA-B27,-B17,-CW6,-DR4 and -DR7).⁽⁴⁾ Various subtypes of stimulated lymphocytes migrate to skin or joint causing disease flaring at various times. Patients with psoriasis can have one or more various types of arthritis with no serological marker. Stimulated CD4 T lymphocytes are the lesion triggering, producing cytokines (interleukin 1, TNF-beta and interferon).⁽⁵⁾ Often, it can occur without skin lesions, or with insignificant rash. The inflammatory disease may affect the synovium and intra-articular ligaments, fascia and tendons.

The objective of our study was to determine different clinical patterns of psoriatic arthritis in Jordanian patients presenting to our rheumatology clinic at King Hussein medical center. Psoriatic arthritis in Jordan is under diagnosed or misdiagnosed with osteoarthritis or rheumatoid arthritis. To increase doctors and patients awareness, the clinical models of psoriatic arthritis must be identified in a certain geographical population.

Methods

Fifty patients with psoriatic arthritis and aged 18-75 years were studied. All patients were referred to the Rheumatology clinic at King Hussein medical center and all patients with psoriatic arthritis were diagnosed according to CASPAR (CAS stands for classification, P stands for psoriatic and AR stands for arthritis) and referred to the Rheumatology clinic at King Hussein medical center. Subjects with psoriatic arthritis were followed up in terms of classification of psoriatic arthritis criteria (CASPAR) during six years time period from August 2008 to August 2013 at our rheumatology clinic at King Hussein medical center, Amman, Jordan. All patients signed an informed consent. Exclusion criteria included patients with rheumatoid arthritis or osteoarthritis. Inclusion criteria included patients with negative rheumatoid factor. Demographics and psoriatic arthritis frameworks were registered.

Clinical data was collected by a rheumatologist of each patient in clinic according to standard protocol which includes age, gender, and age of onset of psoriasis, age of onset of arthritis, types of arthritis, types of psoriasis, Rheumatoid factor and family history. Patients with an established diagnosis of psoriatic arthritis in earlier visits had a registration of their articular condition, while patients with a newly diagnosis of psoriatic arthritis had an examination of affected joints for the presence of at least one item of articular symptoms for more than 6 weeks of tender joints, treatment for arthritis and earlier diagnosis of arthritis. CASPAR classification criteria⁽⁶⁾ included a confirmed inflammatory joint, spine or enthesitis disease with a score of 3 of: recent psoriasis and family history of psoriasis (score of 2) but others (score of 1); dactylitis; juxta-articular new bone formation; rheumatoid factor seronegative and specific nail changes. The number of tender and swollen joints and the model of clinical arthritis were registered as: oligoarthritis (<4 joints), polyarthritis (>5 joints), spondylitis (inflammatory back pain +/- peripheral articular symptoms with at least one of: spine tenderness, radiological sacroiliitis or spinal syndesmophytes), enthesitis (spontaneous pain and tenderness at enthesitis) and dactylitis (spontaneous swelling +/- redness of fingers +/- toes beyond the articular line with tenderness). Full assessment included erythrocyte sedimentation rate, rheumatoid factor and C-reactive protein in addition to radiography for diseased joints.

Results

Eight patients (8/50=16%) were diagnosed previously as confirmed psoriatic arthritis while 42 patients (42/50=84%) were recently diagnosed. The male to female ratio was 1:1(25:25). The mean age of onset of psoriasis was 29.88+/-10.12 (range 21.4-36.3) years and the mean duration of psoriasis was 8.67+/-8.99 years. The mean age of onset of psoriatic arthritis was 35.34+/-10.22 (range 27.6-43.7) years and the mean duration of psoriatic arthritis was 1.29+/-0.5 (range 0.8-1.7) years. The mean age of patients was 46.5+/-26 years. Psoriatic arthritis occurred between 30 and 45 years of age in 60% of patients with psoriatic arthritis.

Table I. Study group demographics

Parameter	Description		
n	50	Previously diagnosed	8(16%)
		Newly diagnosed	42(84%)
Age(years)	18-75	Mean age of onset of psoriasis	29.88
		Mean duration of psoriasis	8.67
		Mean age of onset of psoriatic arthritis	35.34
		Mean duration of psoriatic arthritis	1.29
Sex	M	25(50%)	
	F	25(50%)	
Family history of psoriasis		30(60%)	
Family history of psoriatic arthritis		4(8%)	

Table II. Clinical models of psoriatic arthritis

Model	N	%
Polyarthritis	20	40
Oligoarthritis	10	20
Ankylosing spondylitis	9	18
Enthesitis and dactylitis	6{4+2}	12
Distal interphalangeal arthritis	4	8
Arthritis mutilans	1	2

Table III. Extra-articular manifestations in psoriatic arthritis

Manifestation	%
Nail changes	30
Skin rash	
Before arthritis	80
After arthritis	20

Family history of psoriasis was found in 60% of patients and family history of psoriatic arthritis was found in 8% of patients).Table I.

The most frequent significant pattern was polyarticular arthritis (20/50=40%) (P<0.05), then in decreasing order comes oligoarticular arthritis (10/50=20%), ankylosing spondylitis (9/50=18%), enthesitis and dactylitis (6/50=12%) {enthesitis was found in 4 patients(4/50=8%) with Achilles tendinitis affected frequently in 40% of patients} {dactylitis (1/50=2%), Table II.

Extra-articular involvement was shown in Table III. Nails were affected by psoriasis in 30% of patients with psoriatic arthritis. The most frequent nail feature is pitting in 60% of patients. Psoriatic skin rash preceded arthritis in 80% of patients with psoriatic arthritis with a mean interval of 8.4years. Arthritis preceded psoriatic skin rash in 20% of patients with psoriatic arthritis with a mean interval of 3.1 years. Chronic plaque psoriasis was the most frequent skin lesion found in 90% of psoriatic arthritis patients. Aortic aneurysm was found in one patient with arthritis (2%).

The mean number of swollen joints was 2.4+/-2.3 and the mean number of tender joints was 6.5+/-4.8. All patients with articular swelling experienced pain with tenderness. The most frequently affected joint was knee in 70% of patients.

In our patients with psoriatic arthritis, the erythrocyte sedimentation rate was increased in 90% of patients while C-reactive protein was increased in 70% of patients. Rheumatoid factor was negative in all patients. Abnormal radiological features were found in 30% of patients with bony erosions as the most frequent finding in 20% of patients.

Discussion

Psoriasis is a chronic inflammatory disease. It includes different co-morbidities which are induced by psoriatic arthritis and by chronic inflammation of psoriasis as metabolic syndrome and cardiovascular disease.⁽⁷⁾ Psoriatic arthritis differs in various studies because of patient's geographical, ethnical and demographical variability and because of diagnostic framework

of psoriatic arthritis.⁽⁸⁾ Yang Q and Radtke MA agreed that patients with psoriatic arthritis experience more intense psoriasis,^(9,10) while Gladman DD and Elkayam O, showed that there is no direct correlation between intensity of psoriasis and articular symptoms.^(11,12)

The study revealed that the mean age of onset for psoriatic arthritis was 35.34 years which was comparable to that of rheumatoid arthritis.⁽⁴⁾ Rajendran CP, *et al*, showed a 69% high frequency of psoriatic arthritis during the 4th and 5th decades of life.⁽¹³⁾ Yang Q, *et al*, demonstrated that the mean age of onset of psoriatic arthritis was 39.2 years (4th decade) in China.⁽⁹⁾ Other studies showed that psoriatic arthritis affects males and females in equal proportions.^(14,15) Others showed a higher female preponderance, while Kumar R, *et al*, showed a higher male preponderance⁽¹⁶⁾ comparable with other authors^(2,17,18) because of the higher percentage of male patients addressing the clinic.

In our study, psoriatic arthritis was not observed in patients with long standing psoriasis (i.e. >8 years) on immunosuppressant's. Psoriasis skin rash preceded psoriatic arthritis in 80% of patients and in 20% of patients, the psoriatic arthritis preceded skin rash. This pattern was comparable to others.⁽⁹⁾ Onset of articular pain after onset of skin rash was found in 50.8%, preceded in 12.1% and in the same time in 37% of patients.⁽¹³⁾

In our investigation, 30% of patients with psoriatic arthritis had nail changes although Prasad PV and Reich K, demonstrated that nail changes percentage was between 65% and 97%.^(2,3) Although there was no relation between nail changes and intensity of psoriatic arthritis, nevertheless nail changes in a patient with psoriasis must guide the physician to search for articular involvement. McGonagle D reported a significant anatomical relation between psoriatic arthritis and nail inflammation.⁽⁵⁾ Enthesitis is found in distal interphalangeal disease in patients with psoriatic arthritis. Jajic Z, found that wrists and small joints of the hands and feet are most frequently affected.⁽¹⁷⁾ The same previous authors showed that chronic plaque skin lesion was the most frequent feature in patients with psoriatic arthritis with an incidence of 72%-92%.^(2,9,10,14)

We found that polyarthritis was the most frequent pattern of psoriatic arthritis (40%) with

an average of psoriatic arthritis duration of 8.99 years. Other authors found similar results such as 48.3%⁽¹³⁾ and 58.3%.⁽³⁾ This was not the case in Yang Q and Prasad PV studies who showed that oligoarthritis was the most frequent model in 42-67% of patients, while Jamshidi F reported polyarticular arthritis in 48.3% as the prevalent type.^(2,9,19)

Although spondylitis is not frequent worldwide and occurs with peripheral arthritis, Baek HJ, found that it was the most common model accounting for 50% of patients⁽²⁰⁾ and Kumar R, found its percentage of 49%.⁽¹⁶⁾ This increased frequency of spondylitis is attributed to genetic predisposition. Oligoarthritis is predominant with shorter disease duration while Jajic Z, reported that polyarthritis is prevalent with longer disease duration.⁽¹⁷⁾ Oligoarthritis may progress to polyarthritis in 63% of patients with psoriatic arthritis over 12.2 years. Wide variability in clinical models is attributed to genetics, epidemiology and population.

Important findings of psoriatic arthritis are dactylitis and enthesitis with a frequency of 16-40% in the first and 40-45% in the second.⁽²⁰⁾ Eight percent of patients had enthesitis which is almost comparable to other studies. It is equal to others (7.8%) and lower than others (26.8%).^(9,10,13,20) It is caused by trauma, bare foot walking and genetics. We found dactylitis in a frequency of 6%, which was comparable to others^(9,20) and lower than others.⁽¹⁰⁾

In early psoriatic arthritis, radiological examination is not helpful. All our group of patients had negative rheumatoid factor, though it is mentioned in some studies that 3% of patients might have positive rheumatoid factor. Al-Heresh AM, *et al*⁽²¹⁾ addressed the possibility that certain polymorphisms within the IL10 gene could influence the development of PsA. Although they found no significant correlation with any of the three IL10 polymorphisms studied, there was an increase in the incidence of homozygosity for an IL10 haplotype (-1082A / -819C / -592C) independently of any correlation with either HLA-Cw*0602 or TNFA-238A. We believe that our investigation has some limitations. First, it is descriptive analysis and second, it includes small group of patients. In future, we aim to compare our data with data in other Arab countries. Among patients with psoriasis, 6-42% from

Europe, USA and South Africa were found to experience PsA. PsA was recorded in 9% of the patients with psoriasis in Iran, Korea and India; 5% in China; 2% in Turkey and 1% in Japan. Various ethnicities may influence the development of PsA.⁽²²⁾ Unfortunately, we did not find in the literature any data regarding its frequency in Arab countries to make comparison with ours.

Conclusion

Polyarticular arthritis was the commonest clinical pattern in our Jordanian patients. Psoriatic arthritis might affect a patient with chronic plaque skin lesions of hands preceding the arthritis.

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