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Characteristics of Turkish patients with elderly onset psoriatic arthritis

A retrospective cohort study

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Abstract

Psoriatic arthritis (PsA) is a chronic inflamatory disease characterized with axial and peripheral joints involvement. It rarely affects patients older than 65 years old.

The purpose of this study is to compare and evaluate the demographic, clinical and laboratory features of elderly-onset psoriatic arthritis (EOPsA) and young-onset (YOPsA) patients.

A total of 180 patients diagnosed with PsA according to CASPAR criteria and followed-up in single center were included in this study. The patients with initial symptoms started after age 65 were accepted as EOPsA. Demographic, clinic, and laboratory data and the medications which the patients received were recorded and retrospectively evaluated.

Nineteen (10.5%) of 180 patients were diagnosed as EOPsA, and 161 (89.5%) patients were evaluated as YOPsA. The mean patient age was 42.1years for the YOPsA group and 68.3 years for the elderly onset group. Mean duration of disease was 5.6 years for the early onset group and 1.3 years for the elderly onset group ($P = .001$). Fourteen (73.3%) of 19 EOPsA patients were female and 5 of them were male. Higher rates of fatique, pain scores, comorbid diseases, and acute phase reactants elevation were detected in EOPsA patients comparing to YOPsA ($P = .000$, $P = .000$, $P = .001$, and $P = .001$, respectively). YOPsA patients have more dactilitis, nail involvement, elevated PASI scores, and smoking habitus when compared with EOPsA patients ($P = .019$, $P = .03$, $P = .005$, $P = .004$, respectively). In terms of the treatment options chosen, there was no significant difference in the use of nonsteroidal anti-inflammatory drugs (NSAIDs), corticosteroids (CS), methotrexate (MTX), and sulfasalazine (SSL), but there was a more frequent use of anti-tumor necrosis factor-alpha in the YOPsA group.

YOPsA and EOPsA patients may presented with different clinical and laboratory features. EOPsA patients are characterized with higher rates of fatigue, pain scores, comorbid diseases, and acute phase reactants and less dactilitis, nail involvement, and anti-TNF-alpha usage.

Abbreviations: Anti-TNF-A = anti-tumor necrosis factor alpha, BASDAI = Bath Ankylosing Spondylitis Activity Index, BASFI = Bath Ankylosing Spondylitis Functional Index, CAD = coronary artery disease, CRP = C-reactive protein, CS = corticosteroids, DIP = distal interphalangeal, DM = diabetes mellitus, EOPsA = elderly onset psoriatic arthritis, ESR = erythrocyte sedimentation rate, HAQ = Health Assessment Questionary, HLA-B27 = human leukocyte antigen, HQ = hydroxychloroquine, HT = hypertension, MCP = metacarpophalangeal, MTX = methotrexate, NSAIDs = nonsteroidal antiinflammatory drugs, PASI = Psoriasis Activity and Severity Index, PASI = psoriasis activity and severity index, PIP = proximal interphalangeal, PsA = psoriatic arthritis, PsO = psoriasis, SLZ = Salazopyrine, YOPsA = young-onset psoriatic arthritis.

Keywords: elderly-onset, features, psoriatic arthritis

1. Introduction

Psoriatic arthritis (PsA) is a chronic inflammatory disease characterized by axial and peripheral joint involvement.[1] The main features of disease are asymmetric joint involvement, distal interphalangeal joints (DIP) involvement, absence of rheumatoid factor (RF), and subcutaneous nodules and equal distribution in both sexes.[2] The etiopathogenesis of disease is not well known yet. Different genetic and environmental factors may be responsible for this heterogeneous disease.[3] In studies, there are shown strong evidence for a possible role of those factors in susceptibility and disease phenotype.

There has been significant variation in the reports estimating the incidence and prevalence of PsA.[4] The prevalence of PsA in patients with psoriasis ranges from 6% to 39% with equal gender susceptibility. The overall prevalence of PsA in the USA ranges

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from 101 to 250 per 100,000 people, with an annual incidence reported at 6.6 out of every 100,000 people.[5] As the prevalence of psoriasis is 2% to 3% and PsA occurs in about one-third of patients with psoriasis, it is a common condition. PsA is a part of group of diseases named spondylartritis (SpA) which shared similar genetic, clinical, and radiologic features.[6] As for the patients over the age of 65, initial symptoms of SpA are rarely seen, whereas elderly-onset rheumatoid arthritis patients were reported in the literature.[7] There are some reports about the late onset SpA especially its prototype ankylosing spondylitis (AS).[8–10] These studies reporting that the late onset AS cases are different than the early onset AS cases in terms of clinical appearance, and radiological and laboratory features.[11] Few and insufficient data are reported in the literature about the clinical characteristics of elderly onset PsA.[12–15] Wilson et al[16] evaluated the incidence, prevalence, and clinical characteristics of 147 PsA patients. Seventy-four (50.3%) of these patients had the onset of disease after the age of 40, 48 (32.6%) after 50 years, whereas in totally 33 (24.9%) patients, the disease started in geriatric age (over age 60). In a Finnish epidemiological study, 17 (26.1%) of 65 incident cases of PsA had the disease onset after the age of 55.[17]

The aim of our study was to compare the demografic, clinical, radiological, and laboratory features of elderly onset PsA (EOPsA) and early onset PsA (EOPsA) patients and to demonstrate the probable differences among these patients.

2. Material and method

This study is a retrospective cohort study performed in the single Rheumatology center in Turkey. In total 180 patients diagnosed with PsA according to the CASPAR criteria and followed-up in our center between 2010 and 2016 years were included in this study. The patients, who had initial symptoms started after 65 years of age, were accepted as elderly onset PsA. All the patients were divided into 2 groups as elderly onset and young onset and were compared in terms of: (1) epidemiological data (age, duration of disease, delay in diagnosis, smoking habit); (2) gender, HLA-B27; (3) clinical features (initial symptom, clinical form, extraarticular involvement, etc.); (4) physical examination and antropometric measurements; (5) disease activity parameters (BASDAI, BASFI); and (6) drug usage. Detailed history of all the patients were taken, systemic and musculoskeletal system examinations were performed, and laboratory tests such as erythrocyte sedimentation rate (ESR), C-reactive protein (CRP) levels, and HLA-B27 were implemented. Joint involvements were evaluated by radiological imaging (conventional radiography and MRI). Demographic, clinic, and laboratory data and the medications which the patients received were recorded and retrospectively evaluated. According to the rule of our institution, there is no requirement of ethics committee approval for retrospective studies. Informed consent forms were taken from all patients.

3. Statistics

Data was analyzed by SPSS 20,0 software. Categorized data were cross tabled and tested with the chi-square test. Numeric variables which change in normal ranges were analyzed with the *t*-test, and abnormally ranged variables were analyzed with Mann–Whitney *U*-test. Pearson correlation coefficients for variables with normal distribution were used. Statistical significance threshold value was 0.05.

4. Results

Nineteen (10.5%) of 180 patients were diagnosed as EOPsA, and 161 (89.5%) patients were evaluated as YOPsA. The mean patient age was 42.1 years (range, 18–63 years, SD: 10,44) for the YOPsA group and 68.3 years (range, 65–78 years, SD: 4,30) for the elderly onset group. Mean duration of disease was 5.6 years (range, 1–13years) for the early onset group and 1.3 years (range, 0–4.5years) for the elderly onset group ($P = .001$). Delay of diagnosis was less frequent in EOPsA patients when compared with YOPsA. Fourteen (73.3%) of 19 EOPsA patients were female and 5 of them were male. Higher rates of fatigue, pain scores, comorbid diseases (hypertension, diabetes mellitus, coronary artery disease), and acute phase reactants (ESR/CRP) elevation were detected in EOPsA patients comparing to YOPsA ($P = .000$, $P = .000$, $P = .001$, and $P = .001$ respectively). YOPsA patients have more dactilitis, nail involvement, elevated PASI scores, and smoking habitus when compared with EOPsA patients ($P = .019$, $P = .03$, $P = .005$, $P = .004$, respectively). HLA-B27 positivity was more frequent in YOPsA when compared with EOPsA, but this is not statistically significant. In terms of the articular pattern involvement; axial (spondylitis, sacroiliitis) and peripheral (MCP, DIP, wrist, knee, enthesitis) joint involvement were more frequent in YOPsA patients but this was not statistically significant. There are not any statistically differences between both groups in terms of family history of psoriasis and skin lesions. In terms of the treatment options chosen, there was no significant difference in the use of non-steroidal anti-inflammatory drugs (NSAIDs), hydroxychloroquine (HQ), corticosteroids (CS), methotrexate (MTX), and sulfasalazine (SSL), but there was a more frequent use of antitumor necrosis factor-alpha in the YOPsA group (Table 1).

5. Discussion

Our study results support the hypothesis that young and elderly onset PsA patients may present with different clinical and laboratory features. Elderly onset PsA patients are characterized with higher rates of fatigue, pain scores, comorbid diseases, and acute phase reactants and less dactilitis, nail involvement, and anti-TNF-alpha usage. In our study, we accept patients as elderly over the age 65, whereas in other studies, this point is contradictory. Also, we included only PsA patients and excluded those with other subgroup SpA diagnosis. There are few data in literature reporting clinical characteristics of elderly onset PsA patients. Punzi et al evaluated 66 consecutive patients with PsA diagnosed according to Moll and Wright criteria, 16 EOPsA (>60 years) and 50 YOPsA (<60 years). The authors showed that PsA has a more severe onset and a more destructive outcome in elderly people than in younger subjects.[18] In addition they found that the synovial fluid concentrations of IL1â and IL6, but not those of IL8 were also higher in EOPsA than in YOPsA. The main limitations of this study were that investigators included only patients with peripheral arthritis, whereas patients with enthesitis and/or dactylitis were excluded. López-Montilla et al[19] compared young and elderly onset of PsA and found that peripheral involvement is more frequent in the elderly patients. Queiro et al[20] compared patients with disease onset before 40 years with those patients over this age. They found that patients with late-onset disease had more frequently unilateral sacroiliitis, polyarthritis, and silent axial disease. However, young-onset patients are characterized with a higher frequency of family history, bilateral sacroiliitis, isolated axial pattern, enthesitis, and HLA-B27 positivity. D'Angelo et al[21] investigated whether the age at

Table 1

Comparison between young and elderly onset psoriatic arthritis patients according to demographic, clinical, and laboratory features.

Features	Elderly-onset group (n = 19), (%)	Young-onset group (n = 161), (%)	P
Age	68.3 ± 3,37	42.1 ± 11,9	.000
Female	14 (%73.7)	119 (%73.9)	.983
Disease duration, months	60	96	.612
Delay of the diagnosis, months	1	12	.744
Fatique	19 (100%)	54 (33.5%)	.000
Sacroiliitis	13 (68.4%)	125 (78.1)	.341
Enthesitis	12 (63.2%)	128 (80%)	.093
Dactylitis	0 (%0)	37 (23.1%)	.019
Spondylitis	3 (15.8%)	53 (33.1%)	.123
MCP joint involvement	7 (36.8%)	80 (50%)	.278
PIP joint involvement	6 (31.6%)	75 (46.9%)	.205
DIP joint involvement	7 (36.8%)	81 (50.6%)	.256
Wrist involvement	6 (31.6%)	72 (45%)	.265
Knee involvement	5 (26.3%)	64 (40%)	.247
Skin lesions	17 (89.5%)	152 (94.4%)	.327
Nail involvement	5 (26.3%)	84 (52.2%)	.03
Family history of PsO	6 (31.6%)	60 (38%)	.627
HLA-B27 positivity	0 (0%)	11 (6.8%)	.319
Smoking	1 (5.3%)	62 (38.5%)	.004
HT	14 (73.7%)	23 (14.3%)	.001
DM	12 (63.1%)	17 (10.5%)	.001
CAD	9 (47.4%)	15 (9.3%)	.001
PASI scor	1 (5.3%)	60 (37.3%)	.005
BASDAI	1 (5.3%)	55 (34.2%)	.01
BASFI	1 (5.3%)	34 (21.1%)	.009
Pain scor	19 (100%)	45 (28%)	.000
Elevated ESR (n:0–20 mm/h)	16 (84.2%)	59 (36.6%)	.001
Elevated CRP (n:0–5 mg/dL)	16 (84.2%)	72 (45%)	.001
HAQ scor	19 (100%)	46 (28.6%)	.000
NSAIDs use	1 (5.3%)	12 (7.5%)	1.000
HQ use	0 (0%)	1 (0.6%)	1.000
MTX use	8 (42.1%)	102 (63.4%)	.072
CS use	1 (5.3%)	5 (3.1%)	.493
SLZ use	0 (0%)	3 (1.9%)	1.000
Anti-TNF-A use	0 (0%)	19 (11.8%)	.228

Anti-TNF-A = anti-tumor necrosis factor alpha, BASDAI = Bath Ankylosing Spondylitis Activity Index, BASFI = Bath Ankylosing Spondylitis Functional Index, CAD = coronary artery disease, CRP = C-reactive protein, CS = corticosteroids, DIP = distal interphalangeal, DM = diabetes mellitus, ESR = erythrocyte sedimentation rate, HAQ = Health Assessment Questionnaire, HLA-B27 = human leukocyte antigen, HQ = hydroxychloroquine, HT = hypertension, MCP = metacarpophalangeal, MTX = methotrexate, NSAIDs = nonsteroidal antiinflammatory drugs, PASI = Psoriasis Activity and Severity Index, PASI = psoriasis activity and severity index, PIP = proximal interphalangeal, Pso = psoriasis, SLZ = salazopyrine.

the disease onset may influence the clinical and laboratory characteristics and the performance of the CASPAR criteria in patients with PsA. Compared to the patients with younger-onset disease, the late-onset PsA patients had a more frequently increased level of acute phase reactants (ESR/CRP), shorter disease duration, and more frequent inflammatory swelling with pitting edema of hands and/or feet.[22] The sensitivity of the CASPAR criteria was similar in both groups.

In contrast with previously reported data in the literature, our study had some differences and conclusions. First, our study evaluated elderly onset PsA in terms of different clinical patterns and included a large number of patients. Second, we had compared EOPsA and YOPsA in terms of drug usage and found that there are not differences between both groups except anti-TNF-alpha drugs usage. Third, we included only patients over age 65 year according to WHO classification criteria for elderly patients unlike previous studies which have not exact definition for late onset disease. To our knowledge, there is no other study in the literature comparing these 2 age groups, and our study is a first in this regard. There are contradictory data in the literature regarding the definition of elderly onset PsA. In few studies, patients over age 50 or 55 was define as elderly onset PsA.[23–25] The annual incidence rate of PsA in Finland was reported as 7.7/100.000 in 55–64 year old, 3.6/100000 in 65–75year old, and 3.1/100000 in 75–84 year old, respectively.[17] Our study results (10.5%) was similar to that reported for Finnish population. There are some limitations to the present study. Restricted data from only 1 center and a relatively small number of patients would not allow us to generalize these results. The clinical presentations of PsA vary with respect to ethnicity; the results of the current study might not be generalizable to other populations. Nevertheless, our findings were similar to those reported in the literature.

In conclusion, we showed that YOPsA and EOPsA patients may be presented with different clinical, and laboratory feature. EOPsA patients are characterized with higher rates of fatique, pain scores, comorbid diseases, and acute phase reactants elevation. With the longer duration of life expectancy, it is highly likely that these patients will be seen more frequently in rheumatologic outpatient clinics in the future. For this reason, the clinical features, survey, and treatment options of elderly onset PsA deserve more attention in the future. Multicentral prospective and retrospective studies about this subject are needed.

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