Clinical Spectra of Psoriatic Arthritis Interfacing Psoriatic Patients

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Abstract

The Clinical Spectra of Psoriatic Arthritis Interfacing Psoriatic Patients was studied in cross-sectional patients. Purposive type sampling technique was followed and data were collected by face to face interview. The result revealed that the mean age onset of psoriatic arthritis ranged between 35.77 ± 13.32 years and in 63.5% cases psoriatic arthritis was insidious onset. Family history of the disease was evidenced in 26.9% cases and in 44.2% cases psoriasis was involved in >20% body surface area. Double joint involvement was in 53.8% and three or more joint in 19.2% cases and in 90.4% cases arthritis did not precede the skin lesions. In this study 34.6% arthritis patients had plaque type psoriasis and 38.5% generalized pustlar type psoriasis. Joint involvement was asymmetric oligo arthritis in 63.5%, symmetric polyarthritis in 15.3%, distal interphalangeal predominant in 15.3%, Arthritis mutilans in 1.9% and Spinal type in 3.8%. It was concluded that Asymmetric oligo-arthritis was the most common form and most of patients had plaque or palmoplantar psoriasis and in majority of cases psoriasis was manifested in >20% body surface area and skin lesions did not precede the arthritis.

CBMJ 2012 July: Vol 01 No 02: P: 26-31

Key words: *Psoriatic arthritis, psoriasis, manifestations of psoriatic arthritis.*

Introduction

Psoriatic arthritis (PsA) is recognized as an inflammatory arthritis, usually seronegative, associated with psoriasis[1]. Inflammatory arthritis occurs in 2-3% of the general population, but among patients with psoriasis the prevalence of inflammatory arthritis varies from 6% to 42%. The genetic epidemiology finds its association with human leucocyte antigen (HLA) class 1 alleles as opposed to the class 2 alleles associated with RA[2]. The common symptoms with psoriatic arthritis includes: fatigue, swollen fingers and toes, morning stiffness of joints, tendonitis, low back pain and conjunctivitis. Psoriatic arthritis is ascribed to a group of arthritic conditions known as spondyloarthropathies. There are five recognized types of psoriatic arthritis differentiated by symptoms such as, symmetric, asymmetric, distal interphalangeal predominant, spondylitis, arthritis mutilans. Psoriatic arthritis may progress to joint damage [3].

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The presence of five or more swollen joints at presentation to the clinic and a high level of drug use before presentation were found to be predictors of progression of clinical damage, while a low erythrocyte sedimentation rate (ESR) was protective [4]. In addition, the HLA antigens HLA-B27 (in the presence of HLA-DR7), HLA-B39, and HLA-DQw3 (in the absence of HLA-DR7) were identified as risk factors for progression of clinical damage, while HLA-B22 was protective[5]. The inflammatory response is thought to be immune driven, with an immunomodulatory cascade and cytokine profile qualitatively similar to that of rheumatoid arthritis [4, 6].

Although the disease was thought initially to be a benign arthropathy, but recent investigations indicated that the disease may be more severe and recognized as a disabling rheumatologic disorder. Now-a-days patients with psoriatic arthritis are at an increased risk of death compared with the general population. Deaths due to respiratory causes are increasing among these patients. Due to the paucity of data about the nature of psoriatic arthritis and increased risk of death related to the severity of their disease, the present study was undertaken to find out the epidemiological determinants, assess the clinical variation of the disease and evidence progression of clinical and radiological damage in terms of quality of life and functional status of patients.

Methods

It was a cross sectional study, conducted in the department of Dermatology and Venereology, Bangabandhu Sheikh Mujib Medical University, Shahbagh, Dhaka from July 2008 to May 2009. Patients of psoriatic arthritis attended the department of Dermatology and Venereology and department of Rheumatology, Bangabandhu Sheikh Mujib Medical University, during the study period were enrolled in the study. Inclusion criteria were patients of 15-70 years of age group of both sexes. Exclusion criteria were patients, who were unwilling to give informed consent to take part in the study, suffering from any endocrine disorders and liver diseases and taking uric acid lowering drug. Purposive type sampling technique was followed and data was collected by face to face interview.

Study procedure

Prior to the commencement of this study, the research protocol was approved by the ethical dissertation committee of Bangladesh College of Physicians and Surgeons (BCPS). The aims and objectives of the study along with its procedure, alternative methods, risks and benefits of this study was explained to the patients in easily understandable native language and then informed written consent was taken from each patient. It was assured that all information and records would be kept confidential. Information was collected by taking medical history and clinical examination and subsequent laboratory investigations. Proper permission was taken from the concerned departments. All the cases and controls were informed about the nature of the study. The informed written consents were taken in a consent form prior to collecting data. After collection, data was checked for inadequacy, irrelevancy, and inconsistency. Irrelevant and data was discarded. Data was analyzed by computer with the help of SPSS win 12 software package. Statistical significance is set at 0.05 level and confidence interval at 95% level.

Results

Table 1 shows that the mean age of the respondents was 38.85 ± 13.28 years. Most of the patients were in the age group ? 40 years. The female: male ratio calculated was 1: 1.74. The distribution of the patients by nature of onset of psoriatic arthritis, family history and severity of psoriasis are presented in table 2. It is evidenced that psoriatic arthritis was insidious in 63.5% cases and acute in 36.5%. The family history of the disease was found in 26.9% cases but absent in 73.1%. It is interesting to note the severity of psoriasis which in 19.2% cases involved <10% body surface area. This involvement progressively increases proportionately with the increase in psoriasis cases. The result demonstrated that in 36.5 cases 10-20% body surface area and in 44.2% cases psoriasis was involved in >20% body surface area.

Table I

Distribution of the patients by age and sex (n=52)

Age (in year)	Frequency	Percent
≤30	14	26.9
30-40	23	44.2
40-50	5	9.6
>50 1	0	19.2
Mean ± SD (Range)	**38.85 ± 13.28**	**(24-70)**
Sex	Frequency	Percent
Male	33	63.5
Female	19	36.5

Table 2

Distribution of patients by nature of onset of psoriatic arthritis, family history and severity of psoriasis

Nature of onset of psoriatic arthritis	Frequency	Percent
Insidious	33	63.5
Acute	19	36.5
Family history of diseases	Frequency	Percent
Present	14	26.9
Absent	38	73.1
Severity of psoriasis	Frequency	Percent
<10% area involvement	10	19.2
10-20% area involvement	19	36.5
>20% area involvement	23	44.2

Fig: Photograph showing the patient of severe form Psoriatic arthritis.

Graph representation in fig 1 demonstrated that 34.6% arthritis patients had plaque type, 9.6% palmoplantar, 38.5% generalized pustlar type and 17.3% erythrodermic psoriasis.

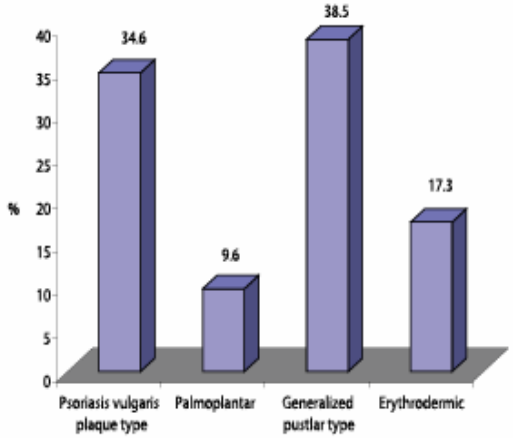

Figure I: Distribution of the patients by the pattern of psoriasis

The study further evidenced in fig 2 that pitting was present in 44.1% cases, discoloration in 26.5%, ridging and thickening in 55.9%, subungual hyperkeratosis in 73.5%, distal onycholysis in 58.8% and oil drop lesion in 14.7%.

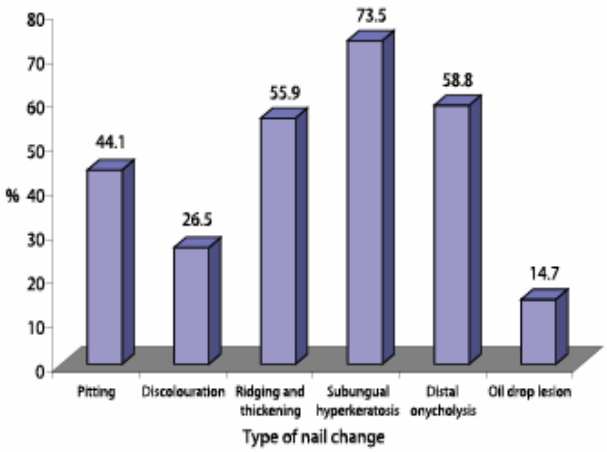

Fig 2 Distribution of the patients by the type of nail changes

It is remarkable that joint involvement noticed in fig 3 evidenced asymmetric oligo arthritis in 63.5%, symmetric polyarthritis in 15.3%, distal interphalangeal predominant in 15.3%, arthritis mutilans in 1.9% and spinal type in 3.8%.

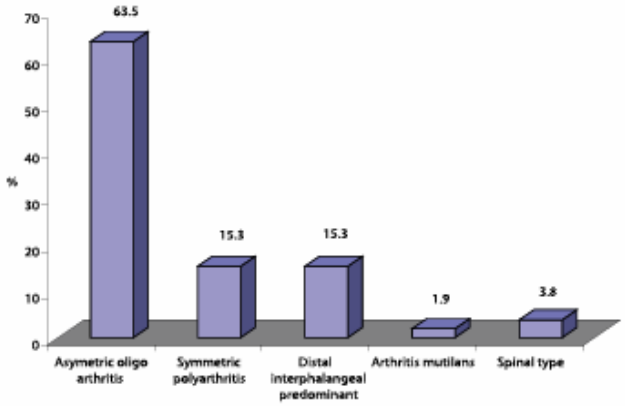

Figure 3 Distribution of the patients according to joint involvement

Table 3 presents the distribution of the patients by the number of affected joints, severity of arthritis and presence of arthritis preceded the skin lesions. The study revealed that single joint involvement was recorded in 26.9% cases, double joint in 53.8% and three or more joints in 19.2%. In 9.6% cases arthritis preceded the skin lesions and in 90.4% cases arthritis did not precede the skin lesions. Table 4 indicates the mean age (±SD) of onset of psoriasis was found 30.96 ± 9.68 years within a range of 10 to 50 years, and mean age (±SD) onset of psoriatic arthritis observed was 35.77 ± 13.32 years with a range of 18 to 70 years. RA factor was present in 19.2% but absent in 80.8% cases.

Table 3

Distribution of patients by the number of affected joints, severity of arthritis and presence of onset onset of diseases and arthritis preceded the skin lesions (n =42)

Number of affected joint	**Frequency**	**Percent**
One	14	26.9
Two	28	53.8
Three or more	10	19.2
Severity of arthritis	Frequency	Percent
Mild	37	71.2
Moderate	5	9.6
Severe	10	19.2
Arthritis preceded the skin lesions	Frequency	Percent
Yes	5	9.6
No	47	90.4

Table 4
Distribution of patients according to age of diseases, RA factor and ESR

Variables	Mean ± SD	Range
Age of onset of psoriasis	30.96 ± 9.68	10-50
Age of onset of arthritis	35.77 ± 13.32	18-70
RA factor	Frequency	Percent
Present	10	19.2
Absent	42	80.8
Total	52	100.0
Variables	Mean ± SD	Range
Erythocyte Sedimentation Rate(ESR)	45.29 ± 30.69	5-100

Discussion

In the present study, fifty two psoriatic patients with arthritis were enrolled to observe the clinical pattern. The mean age of the respondents was 38.85 ± 13.28 years. Most of the patients were in the age group ?40 years. The epidemiological study Langely et al. however stated that the onset of psoriasis could occur from birth to advance ages[7]. Numerous studies reveled the fact revealed that the age of onset of psoriasis (i.e. incidence) has a bimodal adult life (50s and 60s). It was hypothesized that this bimodal distribution in psoriasis incidence represents two clinical presentations of psoriasis; so-called type-I and type-II. Type-I was believed to occur before the age of 40 years and is thought to account for about 75% of cases. Patients with this type of psoriasis were found to have more severe disease and more affected relatives than type II disease[7,8]. Statistical analysis evidenced the two sexes to be equally involved by psoriasis. In our study we recorded higher prevalence in men. Similar observation was found by Jajic and Assadi[8] in the population of patients where psoriasis arthritis was higher in men (60%) than in women (40%). Jamshidi et al evaluated the prevalence of psoriatic arthritis over three hundred and twenty patients with psoriasis in a cross-sectional study[9]. Psoriatic arthritis was observed in 29 (9.1%) patients. The prevalence of Psoriatic arthritis in men (10.1%) was not statistically different from that of women (7.8%).

In the present study the mean age of the respondents although were 38.85 ± 13.28 years, ranging from 24 to 70 years but most (71.1%) of the patients were from the age group ?40 years and mean age (±SD) onset of psoriasis was 30.96 ± 9.68 years with a range of 10 to 50 years, and psoriatic arthritis was 35.77 ± 13.32 years with a range of 18 to 70 years. Male - female ratio calculated was 1.74: 1 and such evidence is obtained by other researchers who found that the disease is phenotypically different between the sexes[10].

In this study it was observed that 9.6% cases arthritis preceded the skin lesions and 90.4% cases arthritis did not precede the skin lesions. Jajic and Assadi[8] indicated that in most cases psoriasis preceded arthritis and the prevalence of arthritis in psoriasis patients was 15.3%. Ibrahim et al reported three community based administrative databases in the UK[11]. Using a validated case definition, approximately 1 in 10 individuals with psoriasis had psoriatic arthritis identified as having PsA. They found that at least one fifth of all individuals diagnosed with psoriasis also had health care contacts for diagnosed PsA[12]. In the USA Galfand et al, sought to determine the prevalence of psoriatic arthritis in the US population[13]. Patients were selected randomly from the US population and were interviewed. Interviews of 27,220 persons were conducted; 601 of the interviewers had psoriasis and 71 had psoriasis and psoriatic arthritis. The prevalence of psoriatic arthritis was 0.25% and the prevalence of psoriatic arthritis among patients with psoriasis was 11%. The most common scenario is onset of psoriasis about 10 years before PsA, but the arthritis may also precede the psoriasis by many years [6,13]

In our study 19.2% cases psoriasis was involved in <10% body surface area, in 36.5 cases 10-20% body surface area and in 44.2% cases psoriasis was involved in >20% body surface area. Consistent with our study, other studies in different parts of the globe demonstrated that the prevalence of psoriatic arthritis varies substantially based on the extent of skin involved with psoriasis [13, 14.]

However Cohen et al, noted that the severity of psoriatic arthritis (eg, number of joints involved, joint damage) does not reliably correlate with extent of skin involvement and the onset of psoriatic arthritis typically occurs years after the onset of psoriasis 15. Jamshidi et al, evaluated the prevalence of psoriatic arthritis over three hundred and twenty patients with psoriasis in a cross-sectional study 9. Psoriatic arthritis was observed in 29 (9.1%) patients. The mean+/-SD psoriasis area and severity index was significantly (P<0.05) higher in patients with psoriatic arthritis (24.33+/-10.36) than those without psoriatic arthritis (10.70+/-8.44). 34.6% arthritis patients had plaque type psoriasis, 9.6% palmoplantar psoriasis, 38.5% generalized pustlar type and 17.3% erythrodermic psoriasis. Jamshidi et al, evaluated the prevalence of psoriatic arthritis over three hundred and twenty patients with psoriasis in a cross-sectional study[9]. Psoriatic arthritis was observed in 29 (9.1%) patients. The most common type of psoriasis in all patients, with and without psoriatic arthritis, was chronic plaque psoriasis[1].

The joint involvement Identified in this study was asymmetric oligo arthritis in 63.5%, symmetric polyarthritis in 15.3%, distal interphalangeal predominant in 15.3%, Arthritis mutilans in 1.9% and Spinal type in 3.8%. But the study of Moll and Wright (1973) showed Oligoarticular asymmetrical arthritis (70%)which was the most common type, followed by symmetrical polyarthritis (15%), arthritis involving mainly or exclusively distal interphalangeal joints (5%), arthritis mutilans (5%) and the spinal form (5%)16. Reich et al, (2009) carried out an observational prospective cross-sectional cohort study at 48 community and academic centres[17]. They found among 1511 patients 20.6% had PsA; in 85% of the cases PsA was newly diagnosed. Of these patients more than 95% had active arthritis and 53.0% had five or more joints affected. Polyarthritis (58.7%) was the most common manifestation pattern, followed by oligoarthritis (31.6%) and arthritis mutilans (4.9%). Distal interphalangeal involvement was present in 41.0% and dactylitis in 23.7%

of the patients. In another study conducted and examined in a German national survey by Radtke et al, determined the prevalence and clinical features of psoriatic arthritis and joint complaints in patients with psoriasis[18]. Nineteen percent of the patients had PsA, including 14.8% previously confirmed and 4.2% newly diagnosed disease. About half (49.7%) of the patients with PsA had at least one swollen joint and 84.9% (n = 287) suffered from joint pain. The mean number of swollen joints among the affected patients amounted to an average of [6.8]. Their results showed that there is still a significant number of patients suspected of having joint involvement without ever having been diagnosed with PsA[18]. In the present study we explored different manifestation of psoriatic arthritis among patients of psoriasis.

Conclusion

Fifty two patients of psoriatic arthritis were enrolled and clinical presentations were recorded. It is remarkable to note from the limited study that in our country asymmetric oligo-arthritis was the most common form, followed by symmetric polyarthritis. Most of the patients had plaque or palmoplantar psoriasis and in majority of cases psoriasis was involved in >20% body surface area and skin lesions did not precede the arthritis. Long term progressive study is advocated to observe the manifestation of psoriatic arthritis.

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