ABSTRACT

Objective: To describe the clinical patterns of arthritis in psoriasis.
Study Design: Cross-sectional, observational study.
Place and Duration of Study: Combined Military Hospital, Kharian Cantonment, Pakistan, from January to December 2007.

Methodology: One hundred consecutive patients with psoriasis reporting to dermatology outpatient department were included. Pregnant ladies (due to X-ray hazard) and rheumatoid factor positive patients were excluded. The demographic profile of patients was recorded. Psoriatic arthritis was diagnosed on the basis of Moll and Wright criteria. Standardized examination of axial and peripheral joints was made. The severity of psoriasis was assessed by PASI score. The presence of a clinical type of psoriatic arthritis, enthesitis, dactylitis, and nail changes were noted. X-ray films of involved joints were taken. A statistical analysis using chi-square test and student’s t-test were done where applicable.

Results: The mean age of patients was 39.8±15.8 years. Seventy one percent were males and 29% were females. Forty six percent of the patients gave a history of joint involvement and fulfilled the Moll and Wright criteria. The mean PASI score in non-arthritic patients was 26.8±34.8 and in psoriatic arthritis patients it was 28.4±41.2, p=0.08. Thirteen patients (28.2%) had predominantly axial disease, while the rest had predominantly peripheral disease. Single joint involvement (monoarthritis) was the commonest clinical presentation. Nail involvement was seen in 29% of the patients without arthritis while in patients having arthritis, nail involvement was 74% (p=0.001).

Conclusion: Joint involvement is common in psoriatic patients. However, the criteria of diagnosis lack consensus.

Key words: Psoriasis. Psoriatic arthritis. Moll and Wright criteria.

INTRODUCTION

Psoriasis is a common skin condition, which is known to affect about 1-2% of the world population. Psoriatic arthritis is a known extracutaneous complication of psoriasis, which has variably been reported to affect 5-40% of psoriasis patients. Psoriatic arthritis has a variable clinical picture, which has led to some difficulties in classification of the disease. By and large, the Moll and Wright’s classification is agreed upon while several others have been proposed. The clinical spectrum of psoriatic arthritis has been recently extended by newly described entities such as pustulosis palmoplantaris with osteoarthritis sterno-clavicularis, psoriatic onychopachydermoperiostitis, enthesopathy and osteoperiostitis.

Studies describing the clinical patterns of psoriatic arthritis in Asian population are few. It has been suggested that the risk of developing psoriatic arthritis is more in Indian ethnicity as compared to Chinese and other oriental races. Studies addressing development of arthritis in psoriatics in Pakistani population are few and may suggest a different clinical pattern. Systematic reviews have also found widely variable disease frequency among different populations. The purpose of the present study was to describe the clinical patterns of joint involvement in psoriatic patients at a dermatology clinic.

METHODOLOGY

This cross-sectional study was carried out at the Department of Dermatology, Combined Military Hospital Kharian Cantonment from January to December 2007. Written informed consent was taken from all the participating patients or their parents. The medical ethics and scientific committee of the hospital approved the study.

One hundred consecutive patients with psoriasis reporting to the dermatology outpatient were included in the study. Pregnant ladies (due to X-ray hazard) and patients with positive rheumatoid factor were excluded. Patients giving history of joint pains were assessed on the basis of Moll and Wright criteria for diagnosis of psoriatic arthritis. The demographic profile of the patients was noted and their detailed history regarding onset of psoriasis and psoriatic arthritis, duration of arthritis, mode of onset (defined as the joints involved...
within the first three months of symptoms), nail dystrophy, dactylitis and enthesitis was recorded.

A standardized examination of peripheral and axial joint involvement was made. The severity of psoriasis was noted on the basis of Psoriatic Activity and Severity Index (PASI) score. Nails were assessed for the presence of pitting, onycholysis, hyperkeratosis, and severe nail deformity with involvement of both sides of nails. Patients were classified into a clinical type on the basis of predominant joint involvement. The definition of various clinical forms of psoriatic arthritis was made as oligoarthritis (less than 5 joints involved); distal interphalangeal Predominant (DIP) joint (> 50% of joints involved were DIP joints); axial disease predominant (presence of a history of inflammatory back or neck pain and/or reduced cervical, thoracic or lumbar movements and radiographic sacroiliitis with involvement of less than 5 peripheral joints); symmetric (> 50% of joints grouping small joints of hands and feet, involved as matched pairs) and a arthritis mutilans (involvement of multiple joints with deformities). Dactylitis was diagnosed by a typical history or on clinical examination. A diagnosis of enthesitis was accepted if there was a history of inflammatory pain at an enthesial site or clinical evidence of enthesitis on examination. X-ray films of hands, feet, sacroiliac joints, and any other involved joints were taken in all patients. The presence of joint surface erosion was considered diagnostic of joint disease. Axial joint involvement was diagnosed on X-ray finding of syndesmophyte formation at any spinal level or sacroiliitis.

The data was recorded on a detailed performa filled for each patient. Later, the data was transferred to statistical program SPSS version 12.0. Descriptive statistics and frequencies were calculated for age, gender, clinical type of psoriasis, and type of psoriatic arthritis. Statistical significance was considered at a level of 95% confidence interval, p-value was considered significant at the level of < 0.05. PASI score in arthritic and non-arthritic patients was compared using student’s t-test. The presence or absence of nail involvement in arthritic patients was compared using chi-square test.

RESULTS

One hundred patients were analyzed. Their mean age was 39.8 years (SD ±15.8, SEM 1.95, range 5-75 years). The commonest age group was 31-45 years (40%), whereas < 15 years (7%) was the least common age group. Seventy one percent were males and 29% were females. Eighty eight percent patients had plaque psoriasis, 8% had guttate, and 4% had erythrodermic psoriasis. There was no case of pustular psoriasis.

Mean percentage of body area involvement was 15.53 (SD ±20.74, SEM 2.07, range 1-95%). Overall mean PASI score was 27.5 (SD ±42.5, SEM 4.2). Mean PASI score in non-arthritic patients was 26.8 (SD ±34.8) and in psoriatic arthritis patients it was 28.4 (SD ±41.2, p=0.08).

Forty six percent patients gave a history of joint involvement and fulfilled the Moll and Wright criteria but only 33% had radiological evidence of arthritis. Out of the 46 patients diagnosed as suffering from psoriatic arthritis, 13 (28.2%) had only axial disease, while the rest had peripheral disease or peripheral plus axial involvement. Single joint involvement (monoarthritis) was the commonest clinical presentation (Table I) and arthritis mutilans was not seen in any patient. The knee joint was the commonest joint involved (76% of patients suffered from knee joint involvement), whereas ankle joint involvement was found in only 28% of patients. Nail involvement was 29% in non-arthritic patients while in patients with arthritis nail involvement was 74% (p=0.001).

<table>
<thead>
<tr>
<th>Types of joint involvement</th>
<th>Frequency</th>
<th>Percentage</th>
<th>CI 95%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Axial joint involvement</td>
<td>24</td>
<td>52.2</td>
<td>37.1 to 66.8%</td>
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<tr>
<td>Multiple joint involvement</td>
<td>9</td>
<td>19.6</td>
<td>9.9 to 34.4%</td>
</tr>
<tr>
<td>Axial joint involvement</td>
<td>13</td>
<td>28.2</td>
<td>16.4 to 43.7%</td>
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<th>Types of joint involvement</th>
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<tr>
<td>Symmetric</td>
<td>14</td>
<td>30.4</td>
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<tr>
<td>Oligoarthritis</td>
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<td>34.7</td>
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<tr>
<td>Axial</td>
<td>13</td>
<td>28.2</td>
<td></td>
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<tr>
<td>Classical (DIP)</td>
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<td>6.5</td>
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DISCUSSION

The Moll and Wright criteria for diagnosis of psoriatic arthritis is the simplest and most frequently used for research. It includes presence of inflammatory arthritis, presence of psoriasis and absence of rheumatoid factor. Several modifications to this criteria have been proposed. It has been suggested that due to the simplicity of diagnosing arthritis some cases of seronegative rheumatoid arthritis may be erroneously diagnosed as psoriatic arthritis. Since then, many more stringent classifications and diagnostic criteria have been put forward. The high number of joint involvement in psoriatrics seen in this study was partly due to lax inclusion criteria but also partly due to high incidence of joint involvement in Asians as shown by other researchers. Further studies are suggested in this regard using new criteria.

This study shows a preponderance of psoriasis in men. Earlier studies in Caucasians generally show equal
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gender incidence, but a higher incidence of psoriasis in males has been suggested in Asians. \(^{14}\) Whether this is due to better male access to medical facilities in Asian societies or a true male preponderance remains to be decided.

The severity of psoriasis has traditionally been associated with the development of joint disease. \(^{1}\) Many researchers have confirmed the finding of a higher PASI score in psoriatic arthritis. \(^{15}\) On the other hand, some other studies have suggested no association between the severity of skin disease and the development of joint disease. \(^{4,16}\) The present study also suggests no association between disease severity and development of joint disease. In this regard, some researchers have argued about the limitations of PASI score in fully analyzing the skin condition of psoriatics and changes in the instrument have been recommended. \(^{15}\) Further research is required with better validated psoriasis severity instruments to confirm the present findings.

In this study, predominant axial involvement was found in 13% patients. Review of literature reveals somewhat similar figures in earlier studies. Studies on psoriatic arthritis in Asian patients show a similar percentage of axial involvement. \(^{13,18}\) However, studies on the Caucasian population show higher figures of axial joint involvement. \(^{5,19}\) The current literature provides enough evidence of difference in the pattern of axial disease between Asians and Caucasians to warrant further research in this regard.

Regarding peripheral joint involvement, earlier studies on Asian patients have shown oligoarthritis to be the most common clinical type. \(^{1,13}\) Others have shown symmetric polyarthritis as the commonest clinical type. \(^{17}\) On the other hand, some studies on Caucasian patients show symmetrical polyarthritis as the dominant clinical group while others show oligoarthritis as the predominant clinical type. \(^{5,20,21}\) The present study has shown oligoarthritis as the predominant clinical type. We believe the current knowledge does not clearly show a dominant clinical type of psoriatic arthritis and further population-based studies are needed.

Nail disease is known to have a strong association with psoriatic arthritis. Prasad \(et\ al.,\) found nail changes in 72.5% of their patients. \(^{14}\) In addition, study exclusively done on nail changes in psoriasis, on Caucasian population has reported statistically significant nail involvement with psoriatic arthritis as well as severity of psoriasis. \(^{22}\) The evidence associating nail disease with joint involvement, especially DIP joints, is overwhelming and significant in Asians as well as Caucasian populations.

A limitation of the present study is the small sample size, depicted by the large standard deviations in these results. Also, this study was conducted in a dermatology unit in hospital; therefore, it is not representative of a whole population. However, it can generate interest in further research in this neglected field.

The study of psoriatic arthritis has lagged behind the study of other arthropathies. Noticeable differences in clinical patterns of joint involvement are found between Asians and Caucasian populations. However, the criteria used for diagnosis are confusing and lack consensus. Seronegative rheumatoid arthritis may be a significant confounder. We suggest larger, multi-centre, or population-based studies using more stringent criteria to assess the true frequency of arthritis in psoriatic patients.

**CONCLUSION**

Joint involvement is common in psoriatic patients. However, the criteria of diagnosis lack consensus.

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