



CORRELATION BETWEEN PSORIASIS SEVERITY AND PSORIATIC ARTHRITIS AMONG PATIENTS ATTENDING A TERTIARY CARE DERMATOLOGY CLINIC IN NORTH INDIA: A CROSS-SECTIONAL STUDY

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ABSTRACT

Background: Psoriatic arthritis (PsA) is a chronic inflammatory musculoskeletal disease occurring in patients with psoriasis. Early diagnosis is essential to prevent irreversible joint damage. The relationship between severity of cutaneous psoriasis and occurrence of PsA remains controversial.

Objectives: To evaluate the association between psoriasis severity and the prevalence of psoriatic arthritis among patients attending a tertiary care dermatology clinic.

Materials and Methods: A hospital-based cross-sectional study was conducted in the Department of Dermatology and Department of Orthopedics, Prasad Institute of Medical Sciences, Lucknow, Uttar Pradesh, India, from April 2025 to September 2025. A total of 142 consecutive patients with clinically diagnosed psoriasis were enrolled. Psoriasis severity was assessed using the Psoriasis Area and Severity Index (PASI) and categorized as mild (PASI <10), moderate (PASI 10–20), and severe (PASI >20). Patients were evaluated for psoriatic arthritis according to CASPAR criteria. Statistical analysis was performed using the Chi-square test.

Results: Among the 142 patients studied, 24 patients were diagnosed with psoriatic arthritis, yielding an overall prevalence of 16.9%. PsA was present in 12 of 79 patients (15.2%) with mild psoriasis, 8 of 45 patients (17.8%) with moderate psoriasis, and 4 of 18 patients (22.2%) with severe psoriasis. Although the prevalence of PsA increased with increasing psoriasis severity, the association was not statistically significant ($\chi^2 = 0.63$, $p = 0.73$).

Limitations: Single-center study with a relatively small sample size.

Conclusion: Psoriatic arthritis was identified in 16.9% of psoriasis patients. Although a trend towards increased PsA prevalence with increasing psoriasis severity was observed, no statistically significant association was demonstrated. A substantial proportion of PsA cases occurred among patients with mild psoriasis, emphasizing the need for routine screening irrespective of skin disease severity.

Keywords: Psoriasis, Psoriatic arthritis, PASI, CASPAR, Prevalence

Introduction

Psoriasis is a chronic immune-mediated inflammatory disease affecting approximately 2–3% of the

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global population¹. In addition to cutaneous manifestations, psoriasis is associated with several systemic co morbidities, among which psoriatic arthritis (PsA) is one of the most clinically significant. Psoriatic arthritis belongs to the broad group of spondyloarthropathies which is characterized by its association with psoriasis and seronegativity for rheumatoid factor². It is a chronic inflammatory arthropathy that may affect peripheral joints, axial skeleton, entheses, and tendons, potentially resulting in progressive joint destruction and functional disability.

The most accepted classification criteria has been published in 2006 by the Classification Criteria for Psoriatic Arthritis (CASPAR) study group.³ CASPAR classification is easy to use enabling psoriatic arthritis to be diagnosed in the presence of rheumatoid factor and absence of psoriasis, provided typical findings of psoriatic arthritis are present. It has high sensitivity in early psoriatic arthritis, and may, therefore, be used to classify patients early in the course of disease.⁴

The prevalence of psoriatic arthritis among patients with psoriasis has been reported to vary from 6% to 42%, depending on study design, population characteristics, and diagnostic criteria used. Meta-analyses suggest that approximately 20–24% of patients with psoriasis may develop psoriatic arthritis during their lifetime. Prey et al.⁵ in their systematic review of literature concluded that psoriatic arthritis may affect up to 24% of patients with psoriasis.

Several studies have attempted to identify clinical predictors of psoriatic arthritis. While some investigators have reported a positive association between psoriasis severity and psoriatic arthritis, others have failed to demonstrate such a relationship. Indian data regarding this association remain limited.

Therefore, the present study was undertaken to evaluate the association between psoriasis severity and the occurrence of psoriatic arthritis among patients attending a tertiary care dermatology clinic in North India.

Materials and Methods

Study Design and Setting

This cross-sectional observational study was conducted in the Department of Dermatology and Department of Orthopedics, Prasad Institute of Medical Sciences, Lucknow, Uttar Pradesh, India, from April 2025 to September 2025.

Study Population

A total of 142 consecutive patients with clinically diagnosed psoriasis attending the dermatology outpatient department during the study period were included.

Inclusion Criteria

- ☐ Age ≥ 18 years
- ☐ Clinical diagnosis of psoriasis
- ☐ Willingness to participate

Exclusion Criteria

- ☐ Rheumatoid arthritis
- ☐ Connective tissue disorders
- ☐ Other inflammatory arthropathies

Clinical Assessment

Demographic and clinical details were recorded. Psoriasis severity was assessed using PASI and categorized as:

- ☐ Mild (PASI < 10)
- ☐ Moderate (PASI 10–20)
- ☐ Severe (PASI > 20)

Patients were evaluated for musculoskeletal symptoms and diagnosed with psoriatic arthritis according to CASPAR criteria.

Statistical Analysis

Data were analyzed using SPSS software. Categorical variables were expressed as frequencies and percentages. Associations were evaluated using the Chi-square test. A p-value <0.05 was considered statistically significant.

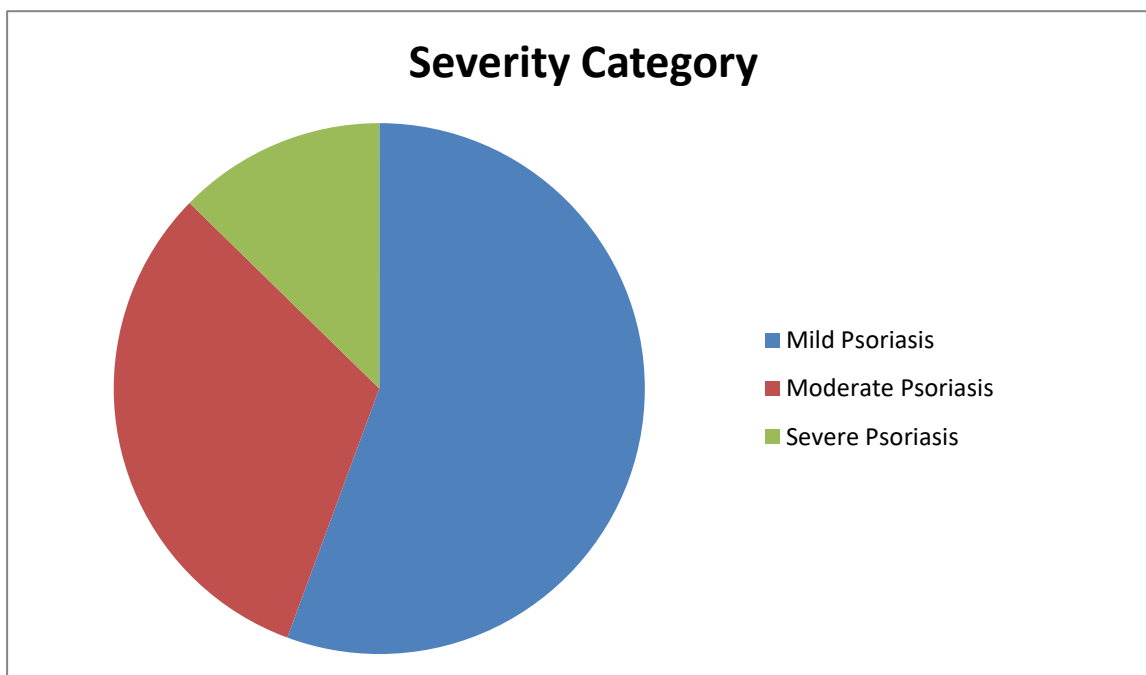
Results

Baseline Characteristics

A total of 142 patients with psoriasis were included in the study.

Distribution According to Psoriasis Severity

Severity Category	Number (%)
Mild Psoriasis	79(55.6)
Moderate Psoriasis	45(31.7)
Severe Psoriasis	18(12.7)
Total	142(100)

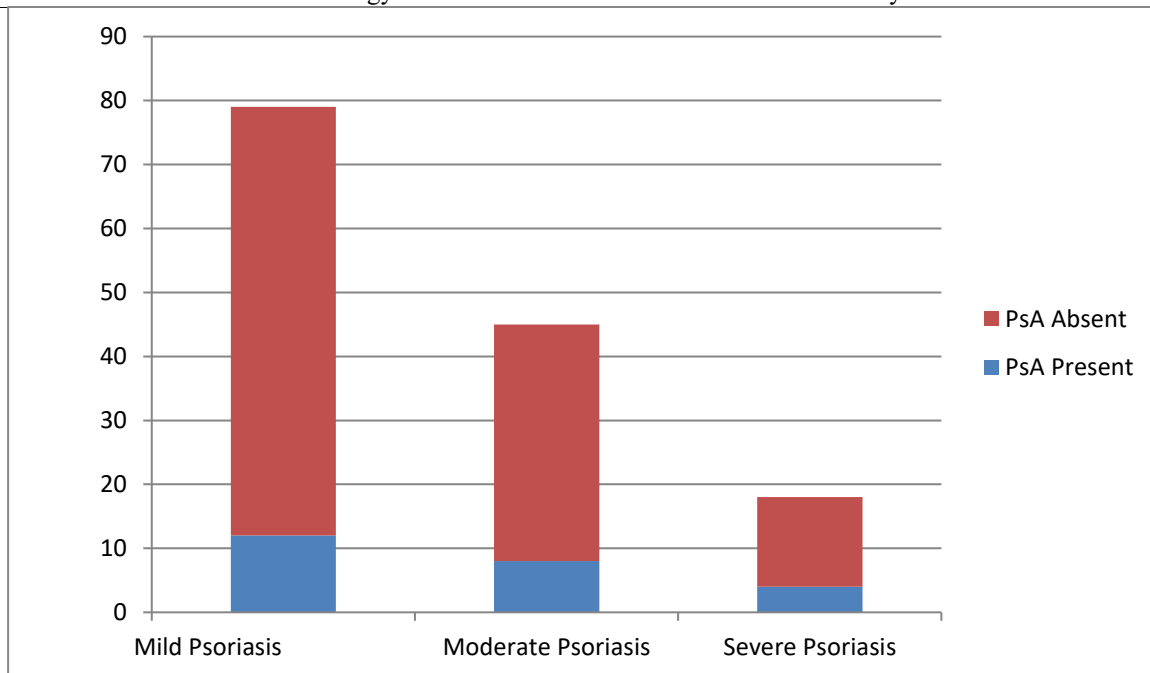


Prevalence of Psoriatic Arthritis

Psoriatic arthritis was diagnosed in 24 patients, giving an overall prevalence of 16.9%.

Association Between Psoriasis Severity and Psoriatic Arthritis

Severity	Total Patients	PsA Present n (%)	PsA Absent n (%)
Mild	79	12(15.2)	67(84.8)
Moderate	45	08(17.8)	37(82.2)
Severe	18	04(22.2)	14(77.8)
Total	142	24(16.9)	118(83.1)



Association Between Psoriasis Severity and Psoriatic Arthritis

Chi-square = 0.63

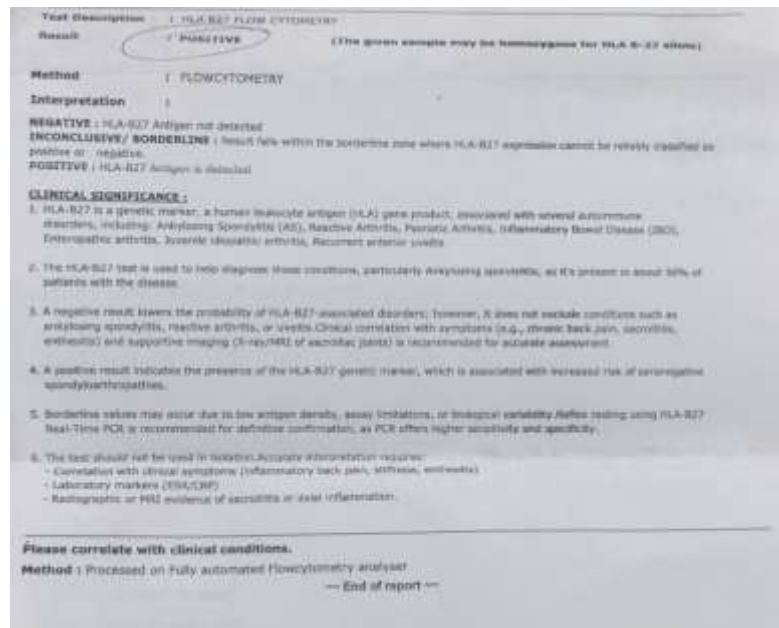
Degrees of freedom = 2

p = 0.73

The prevalence of psoriatic arthritis increased from 15.2% among patients with mild psoriasis to 22.2% among patients with severe psoriasis. However, this trend did not achieve statistical significance.



A PATIENT OF PSORIASIS WITH PSORIATIC ARTHRITIS



HLA B27 POSITIVE REPORT OF SAME PATIENT

Discussion

The present study evaluated the association between psoriasis severity and psoriatic arthritis among 142 patients attending a tertiary care dermatology clinic in North India.

The overall prevalence of psoriatic arthritis in our study was 16.9%. This prevalence lies within the range reported in previous international studies and is higher than the 8.7% prevalence reported in a large Indian study from Chandigarh by Kumar R et al.⁶ Differences in prevalence may be attributable to variations in study design, patient selection, referral patterns, and diagnostic criteria.

A gradual increase in psoriatic arthritis prevalence was observed with increasing psoriasis severity. psoriatic arthritis was identified in 15.2% of patients with mild psoriasis, 17.8% of patients with moderate psoriasis, and 22.2% of patients with severe psoriasis. Nevertheless, the observed trend was not statistically significant.

Our findings suggest that while severe psoriasis may be associated with a greater inflammatory burden, skin severity alone may not reliably predict the occurrence of psoriatic arthritis. Similar observations have been reported in several previous studies in which the severity of cutaneous involvement did not consistently correlate with articular disease.

An important finding of our study was that half of all psoriatic arthritis cases occurred among patients with mild psoriasis. This observation highlights the limitations of relying solely on skin disease severity to identify patients at risk of arthritis. Dermatologists should maintain a high index of suspicion for psoriatic arthritis even among patients with limited cutaneous disease.

Routine screening using validated questionnaires and timely rheumatological referral may facilitate earlier diagnosis and intervention, thereby reducing the risk of irreversible joint damage.

Limitations

The present study was limited by its single-center design and relatively small sample size. Longitudinal follow-up was not performed. Additional clinical variables such as nail involvement, obesity, disease duration, and metabolic syndrome were not analyzed.

Conclusion

Psoriatic arthritis was present in 16.9% of patients with psoriasis attending a tertiary care dermatology clinic. Although the prevalence of psoriatic arthritis increased with increasing psoriasis

severity, no statistically significant association was observed. Since a considerable proportion of psoriatic arthritis cases occurred in patients with mild psoriasis, routine screening for psoriatic arthritis should be performed irrespective of the severity of cutaneous disease.

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Nil.

Conflicts of Interest

There are no conflicts of interest.

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