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Clinical profile of patients with psoriatic arthritis in a tertiary healthcare center

Ilyas Baig[1], Shraddha More[2], Milind Nadkar[3], Alhad Mulkalwar[4], Hunaid Haider[5]

[1]Resident, [2]Assistant Professor, [3]Professor and Head, [4,5]Intern, Department of Medicine, Seth Gordhandas Sunderdas Medical College and King Edward Memorial Hospital, Mumbai, Maharashtra, India

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ABSTRACT

Background: Psoriatic arthritis (PsA) is an inflammatory arthritis associated with psoriasis, usually seronegative for rheumatoid factor. While many patients with PsA do well, there is a group of patients who suffer from severe disease, with progression of articular damage and increased morbidity. **Aims and Objectives:** This study was aimed at assessing the clinical profile of patients suffering from PsA in a tertiary care hospital. **Materials and Methods:** A prospective observational study was carried out with due permission of the Institutional Ethics Committee. Demographic and clinical parameters were tabulated and DAPSA and PASI scores were noted. The comparison was done using Chi-square test and paired t-tests. Outcomes were noted and comparisons were made after 3 months of observation. **Results:** A total of 43 patients were included in the study. Most of them belonged to the age group of 26–35 years (25.25%), followed by 36–45 years (23.26%). The mean age of the study subjects was 39.09 ± 8.4 years and median age was 30 years, with roughly an equal number of male (55.81%) and female (44.19%) patients. We observed that along with small joint involvement, which is common in PsA, many patients also showed involvements of large joints. Low backache, dactylitis, and enthesitis were observed in few patients. **Conclusion:** The study concludes that there was significant difference between mean DAPSA score at <1 year duration but not after 1 year and there is no correlation between the DAPSA score and PASI score.

Key words: Psoriatic arthritis; Spondyloarthropathy; Steroids

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INTRODUCTION

Psoriatic arthritis (PsA) is an inflammatory arthritis associated with psoriasis, usually seronegative for rheumatoid factor (RF). It belongs to a group of diseases with similar clinical manifestation called seronegative spondyloarthropathies (SpA).[1] While many patients with PsA do well, there is a group of patients who suffer from severe disease, with progression of articular damage and increased morbidity. The prevalence of PsA varies from 6% to 34% in patients with psoriasis in the western population. In Indian patients with psoriasis, the prevalence of the same has been reported to be around 8.7%.[2]

According to the currently most widely accepted immunocyte/cytokine model, the major role in initiating the inflammatory process in PsA is played by proteins that disturb signaling between dendritic cells and T cells as well as the alterations of interleukin-23 and other inflammatory mediators. The manifestations of PsA include psoriatic skin lesions, the synovial membrane lesions, lesions of tendon and ligament enthuses and inflammatory lesions within the bone and cartilage. The lesions are closely related to the process of T-cell activation.[3] Almost half of the patients with PsA may have an inflammatory arthritis of the back as well, manifesting particularly in the lower back. Other typical features include enthesitis (inflammation at tendon insertion into bone) and dactylitis (inflammation of the whole digit).

Moll and Wright classified PsA into five subtypes, namely, (1) distal interphalangeal arthritis alone, (2) arthritis mutilans (destructive), (3) symmetric polyarthritis, (4) asymmetric oligoarthritis, and (5) spondyloarthropathy.[4] In 1994, Veale et al., included SAPHO syndrome

Address for Correspondence:
Dr. Alhad Mulkalwar, Intern, Seth Gordhandas Sunderdas Medical College and King Edward Memorial Hospital, Acharya Donde Marg, Parel, Mumbai - 400 012, Maharashtra, India. **Mobile:** +91-9423523055. **E-mail:** alhad.mulkalwar@gmail.com

(synovitis, acne, pustulosis, hyperostosis and osteitis)as a distinct subgroup.[5] The previous studies showed the asymmetric oligoarthritis being the most common subtype. However, recent surveys suggest that the most common manifestation is the symmetric polyarthritis resembling rheumatoid arthritis(RA).[6] Due to this changing pattern of PsA in different studies, we have analyzed the clinical pattern of psoriatic arthritis as seen in our clinic and have compared the same with other studies. The clinical manifestation of PsA is quite distinctive and different from RA. In most cases (except for the destructive form), the course is less severe than RA. Involvement of the spinal joints and sacroiliac joints is typical for PsA. Lesions are characteristic for diseases included in the SpA group.[7]

The most important radiological classification of PsA is Psoriatic Arthritis Rating Score evaluating destructive lesion (erosions) in joints and bone proliferation.[8] Ideal therapy for PsA should target both rash and joint disease, treat peripheral and axial manifestations including dactylitis and enthesitis. Erosive joint damage as well as the impact on quality of life from PsA has been shown to be comparable with that in patients with RA.[9] Therefore, both symptomatic therapy and aggressive treatment aimed at disease modification/amelioration should be the goal of effective medical management of PsA. Traditional disease modifying antirheumatic drug (DMARD) therapy has been poorly studied. There are few adequate well designed controlled randomized trials and those that have been performed have shown disappointing efficacy.

Keeping in view the fact that the clinical presentation and patterns of PsA in a given geographical area are important for optimal management, we analyzed the spectrum of clinical profile of patients with PsA in our tertiary care hospital and their outcome after 3 months of either introduction of treatment (in new patients) or continuation of treatment (in old patients) with DMARDS, steroids, or biological agents. We also studied the patterns of joint involvement in Indian population and the relationship between skin lesions/nail lesions with joint involvement. The relationship between psoriasis area severity index (PASI) and joint involvement (DAPSA Score) was also analyzed.

Aims and objectives

The study aimed to assess the clinical profile of patients suffering from PsA in a tertiary care hospital with a 3 months follow-up.

MATERIALS AND METHODS

We undertook a prospective observational study in the department of medicine of a tertiary care institute to study the clinical profile of patients with non-radiographic axial spondyloarthropathy with 3 months follow-up. The permission was obtained from the Institutional Ethics Committee. Over a period of 18 months, patients of PsA fulfilling CASPAR criteria at the time of presentation or any time in the past following up rheumatology OPD or admitted in wards were included in the study, with the exclusion of pregnant or lactating females. The DAPSA score and PASI scores of all patients were calculated and the Chi-square test was used for comparison between them. The paired t-test was used for other quantitative data such as examination findings and laboratory values.

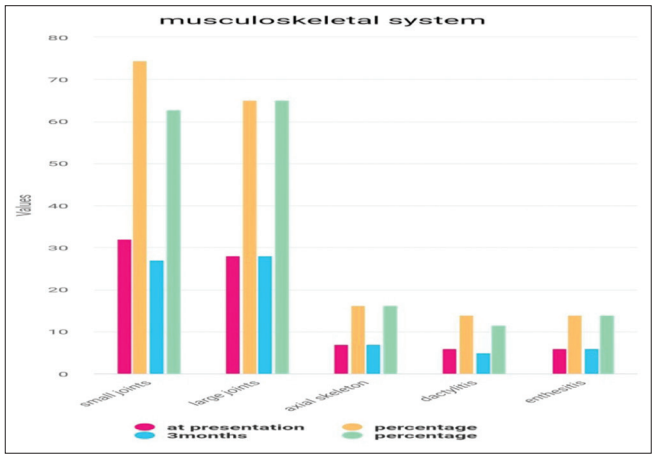
RESULTS

A total of 43 patients were included in the study. Most of them belonged to the age group of 26–35 years (25.25%), followed by 36–45 years (23.26%).The mean age of the study subjects was 39.09±8.4 years and median age was 30 years, with roughly an equal number of male (55.81%) and female (44.19%) patient. We observed that along with small joint involvement, which is common in PsA, many patients also showed involvements of large joints. Low backache, dactylitis, and enthesitis are observed in few patients (Graph 1).

Most of the patients had either active or past history of psoriasis. Graph 2 shows the involvement of skin and nails in the patients.

Most common type in the sample was found to be symmetric polyarticular type of PsA. Arthritis mutilans was not present in any subject (Graph 3).

Diseases everity was monitored using DAPSA score (Table 1), while the skin disease activity (area of skin involved) was monitored using PASI score (Table 2). PASI score was measured using DermNet NZ: Chart. Table 3 shows the findings of the nail examination.



Graph 1: Joint involvement in the patients

X-ray changes were visible in 21% of the patients. Tables 4 and 5 depict the treatment profile of the patients.

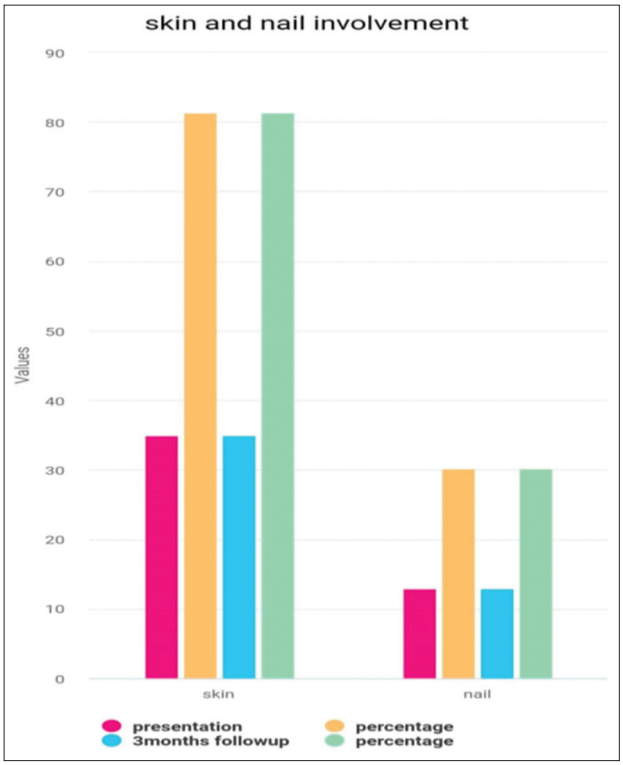
Routine blood investigations were noted; however, no investigations were advised for purpose of the study. About 2.3% subjects were RF positive and 4.65% subjects were HLA B27 positive. Most of newly diagnosed patients and those with duration of disease upto 1 year at presentation showed significant reduction in mean DAPSA Score at 3 months follow-up (p=0.036). However, for cases with disease duration more than 1 year at presentation, DAPSA score had not changed significantly at 3 months follow-up (p = 0.864). The PASI score in neither of the two categories showed any significant decline (p = 0.8644 and 0.8259, respectively). The severities of joint (DAPSA score) and skin (PASI score) diseases were not found to be related to each other at presentation (R = 0.0159) or at the 3 months follow-up (R = 0.0146). The DAPSA score was also found to be unrelated to the ESR values at presentation (R value = 0.0146). The DAPSA scores at presentation and follow-up were also found to be unrelated to the CRP values at presentation (R = 0.0146) and at follow-up (R = 0.0146), respectively.

DISCUSSION

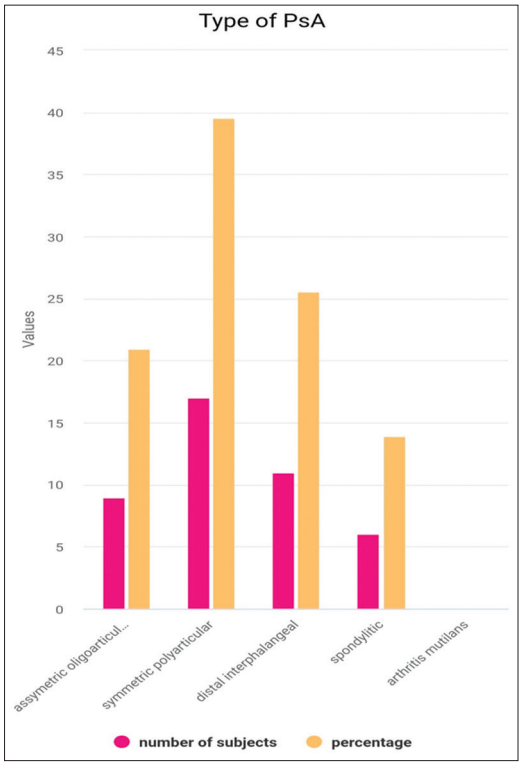
In the present study, the majority of the subjects were male (55.81%). A similar finding was observed by Rajendran et al., and showed male-to-female ratio of 2: 1. However, other epidemiological studies by Gladmann et al., and Kammer et al., showed equal sex incidence. Female preponderance in PsA was reported by Pranesh et al.

The previous studies (Rajendran et al., Gladmann et al., and Singh et al.,) showed symmetric polyarthritis as the most common pattern of joint disease. Another study by Ijaz from Pakistan showed that oligoarthritis as the predominant type. At a recent meeting of the SPARCC group, the assessment of enthesitis was tested in four areas, the plantar fascia, Achilles tendon insertion, tibial tuberosity, and rotator cuff insertion. For assessment of enthesitis in the first three areas, the agreement between observers was moderate, but for assessment of the rotator cuff insertion, it was poor. Two measures of enthesitis have been proposed for the spondylarthropathies. The Mander index, which includes 66 sites, is some what cumbersome to utilize and does not adequately distinguish sites with enthesitis from tender points in fibromyalgia. Recently, the Maastricht Ankylosing Spondylitis Enthesis Score (MASES) was developed and validated. The MASES index, which includes 13 anatomic sites, includes the four sites tested by the SPARCC group in PsA.

Another study by Prasad et al., showed major proportion of patients had moderate-to-severe skin disease activity (PASI 10–30). Elkayam et al., showed a significant correlation between PASI score and joint count and Schober's test and



Graph 2: Involvement of skin and nails in the patients



Graph 3: Type of pattern of joint involvement seen in the patients

Table 1: Disease severity monitored using DAPSA score

DAPSA score	Interpretation	On admission		After 3 months	
		Number of subjects	Percentage	Number of subjects	Percentage
Less than 4	Remission	1	2.33	0.00	0.00
4–14	Low disease activity	15	34.88	22.00	51.16
14–28	Moderate disease activity	13	30.23	15.00	34.88
More than 28	High disease activity	14	32.56	6.00	13.95
	Total	43	100.00	43.00	100

Table 2: Area of skin involved monitored using PASI score

PASI Score	Interpretation	Presentation	Percentage	3 monthsfollow-up	Percentage
Less than5	Mild	24	55.81	25	58.14
5–10	Moderate	4	9.30	5	11.63
>10	Severe	15	34.88	13	30.23
	Total	43	100	43	100

Table 3: Findings of the nail examination

Findings	Presentation	3 monthsfollow-up
Nail pitting	8	8
Onicholysis	2	2
Subungual hypertrophy	2	2
Nail softening	1	1
Absent nail changes	30	30
Total	43	43

Table 4: Use of methotrexate in the study patients

Methotrexate mg/week	Subjects	Percentage
10	8	18.60
15	32	76.74
20	1	2.33
Not given	2	4.65

Table 5: Use of other medications in the study patients

Medications	Subjects	Percentage
Steroids	6	13.95
NSAID	9	20.93
Biologicals	0	0
Total	13	34.14

cervical spine involvement. In that study, they observed simultaneous flare of skin and joint disease more in the proportion of patients who hadthe onset of psoriasis and joint disease within 1 year. However, they did not find association among the group of patients who had separate onset of joint and skin disease. However, few other studies showed no association between skin and joint diseases. A prospective study by Jones et al., among 100 patients with PsA, skin and nail disease activity did not correlate with the joint severeity, joint activity, or functional status. Another study by Ejaz suggests no association between skin disease severity and the development of arthritis.

Lambertand Wright found high prevalence of uric acid values above the normal range and this may be due to high cell turnover and increased purine metabolism. The study by Prasad et al., observed joint space narrowing as the most common radiological change 62.5% of patients. According to Brower et al., marginal erosions and joint space narrowing are initial lesions, while periosteal new bone formation, osteolysis, and ankylosis are seen in advanced stage of disease.

Queiro et al., in the study, compared patients with late-onset disease, PsA patients with the early-onset psoriasis showed more frequently: A longer psoriasis-arthritis latency period (9.9±6 years vs. 3.8±4 years, P = 0.0001), a positive family history of disease (60.3% vs. 20.5%, OR 6.1, 95% CI: 2.5–15.0, P = 0.0001), severe psoriasis (PASI 8.2±4 vs. 3.6±2.2, P = 0.0001), clinical enthesitis (37.7% vs. 22.4%, OR 2.09, 95% CI: 0.9–4.9, P=0.08), and oligoarthritis (47.5% vs. 28.6%, OR 2.26, 95% CI: 1.02–5.02, P = 0.04). MICA-A9 was associated with susceptibility in both early-onset (60.7% vs. 30%, P = 0.0002) and late-onset patients (59.2% vs. 30%, P = 0.0008). However, HLA-Cw*0602 was significantly increased in patients with the early-onset psoriasis (73.8% vs. 17%, P<0.0001).[10]

CONCLUSION

The study concludes that there is significant difference between mean DAPSA score at less than 1 year duration but not after 1 year and there is no correlation between DAPSA and PASI score.

Limitations of the study

All cases of PsA were not included in the study (Pregnant and lactating females were not a part of the study). This study involved the patients of a single tertiary care hospital. of the sulfa group were not a part of the study).

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Authors Contribution:
IB- Review of literature and manuscript preparation, coordination, statistical analysis and interpretation; **SM, MN-** Concept and design of the study, Interpretation of results; **AM, HH-** statistical analysis and interpretation, preparation of manuscript and revision of the manuscript.

Work attributed to:
Seth Gordhandas Sunderdas Medical College and King Edward Memorial Hospital, Acharya Donde Marg, Parel, Mumbai - 400 012, Maharashtra, India.

Orcid ID:
Dr. Ilyas Baig - https://orcid.org/0000-0003-0818-6009
Dr. Shraddha More - https://orcid.org/0000-0002-8525-1524
Dr. Milind Nadkar - https://orcid.org/0000-0003-1790-6127
Dr. Alhad Mulkalwar - https://orcid.org/0000-0001-6236-3841
Dr. Hunaid Haider - https://orcid.org/0000-0003-2844-6648

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