Original Article

Psoriasis with psoriatic arthritis: A clinical study

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Abstract

Background: Psoriasis may be associated with Psoriatic arthritis in 6% to 42% of cases. Psoriatic arthritis can cause serious disability. No data about incidence of Psoriatic arthritis in patients of Psoriasis was available in Mauritius. **Objective:** To determine the prevalence of Psoriatic arthritis and its clinical types in Mauritian patients of psoriasis. **Methodology**: A cross-sectional study of consecutive 55 patients of Psoriasis was carried out by the case study method at a tertiary medical centre in Mauritius. The diagnostic criteria of Moll and Wright were used for the diagnosis and the classification of Psoriatic arthritis. The data collected was statistically analysed using SPSS16 (Statistical Package for the Social Sciences) software. A p value of < 0.05 was considered as statistically significant. **Results:** Psoriatic arthritis was observed in 14 (25.4%) of patients of Psoriasis. Female to Male ratio was 5:2. Clinical types of Psoriatic arthritis observed were Polyarthritis in 5 (35 %), a Combination of Spondylitis and Symmetric polyarthritis in 3 (29%), Oligoarthritis in 3 (29%) and Classical Isolated Distal interphalangeal joint involvement in 1 (7%) patient. The Proximal interphalangeal joints of the fingers were involved in 10 (71%), followed by the knee joint in 7 (50%) and the ankle joint in 7 (50%) of patients. **Conclusion:** Psoriatic arthritis affected female more frequently than male and the Polyarthritis type of psoriatic arthritis was predominant. The proximal-inter-phalangeal joints were most frequently involved.
Key words: Psoriatic arthritis, polyarthritis, spondylitis, oligoarthritis.

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INTRODUCTION

Psoriasis is a recurrent and chronic systemic inflammatory condition predominantly involving the skin, the nails and the joints.[1,2] Worldwide prevalence rates of psoriasis range from 0.6 to 4.8%[3,4] out of which 6% to 42% are reported to develop psoriatic arthritis,[5] a painful and potentially debilitating type of arthritis. Patients with moderate to severe psoriatic arthritis are candidates for systemic treatment with immunosuppressant and biologicals.[6] However prevalence of psoriatic arthritis in Mauritian patients of psoriasis is not known.

Psoriatic arthritis (PsA) is the inflammation of the joints and the musculoskeletal system, in a patient of psoriasis with negative serology for rheumatoid factor.[1,2] No universally accepted gold standard exists for diagnosing PsA.[7] The criteria first proposed by Moll and Wright are currently the most frequently used, and includes an inflammatory arthritis, the presence of psoriasis and negative serology for rheumatoid factor.[8] Moll and Wright criteria for the diagnosis of Psoriatic arthritis does not include radiological findings. Using this criteria, PsA has been subdivided into five types, including oligoarticular, spondylitic, asymmetric polyarticular, distal interphalangeal and arthritis mutilans.

MATERIALS AND METHODS

An exploratory clinical research was carried out at the Skin Outpatient Department of a tertiary medical centre in Mauritius. A cross-sectional study of consecutive 55 patients of psoriasis of either sex was carried out by the

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case study method from February 2011 to October 2012. A convenience sample of patients of psoriasis attending Skin Outpatient Department was taken, as source list of patients in the region, was not available.

Only patients of classical psoriasis of the skin were included in the study and the diagnosis of psoriasis was made on the following clinical criteria: 'Psoriasis vulgaris' if there was a typical clinical picture of well circumscribed, erythematous, scaly, chronic plaques on the scalp and the extensors, the 'Guttate psoriasis' if there was an abrupt eruption of typical psoriatic lesions of papular type; the 'Pustular psoriasis' if tiny sterile pustules were found on the surface of psoriatic plaques and the 'Psoriatic erythroderma' if extensive erythema and superficial scaling of more than 90% of the body surface occurred in a known case of psoriasis.[1,2]

The diagnostic criteria of Moll and Wright were used for the diagnosis of Psoriatic arthritis[8] which include the presence of inflammatory arthritis with psoriasis and with negative serological tests for rheumatoid factor. Joint swelling, redness, and deformity with restriction of movement of the joint, were recorded. Joints were categorized as distal interphalangeal joint (DIP), small joints of the hands, small joints of the feet, large joints and axial joints. Clinical types of psoriatic arthritis were divided in to five clinical types, as per the classification of Moll and Wright[8] : Isolated Distal interphalangeal joint (DIP) without any other peripheral joint involvement, Asymmetrical oligoarthritis (four or less joints involved), Polyarthritis (more than four joints involved), Spondylitis and Arthritis mutilans.

Patient of psoriasis in remission of skin lesions of psoriasis or a patient with isolated nail psoriasis or a patient of guttate psoriasis found to be serologically positive for VDRL or TPHA test were excluded from the study.

Following a detailed medical history and a clinical examination of each patient, the data was recorded in a comprehensive Case Record Form (CRF). Clinical photographs of selected cases and X-rays of hands, wrists, feet, cervical spine and lumbosacral spine were taken as per complaint of the patient and clinical findings.

The data collected was statistically analysed using SPSS16.0 (Statistical Package for the Social Sciences) software. The continuous data was described as mean and standard deviation. The categorical data was expressed as frequencies and percentages. Analysis of contingency tables was done by Fisher's Exact test. The categorical data was analyzed by Chi-squared test. A p value of < 0.05 was considered as statistically significant.

OBSERVATIONS AND RESULTS

A total of 55 patients were studied. Ethnically 52 (94.6%) patients were Mauritians of Indian origin and 3 (5.4%) patients were Mauritians of African origin. The age of patients ranged from 20 to 76 years and the mean age was 48.9 years, SD ±13.5. Men were 36 (65.5%) and women 19 (34.5%). Male to female ratio was approximately 2:1.

A total of 14/55 (25.4%) patients of psoriasis were diagnosed to have Psoriatic arthritis.

Table 1: Gender and Psoriatic arthritis

Gender	Psoriatic arthritis	p value
Male	4 (28.6%)	p =0.002*
Female	10 (71.4%)	

* statistically significant

Psoriatic arthritis affected male to female in the ratio of 2:5. On performing the Fisher's Exact test, this finding was statistically significant ($p < 0.05$). Patients with scalp psoriasis were 22 (40%), flexural psoriasis 15 (27.2%), palmo-plantar psoriasis 4 (7.3%), nail psoriasis, 33 (60.0%) and psoriatic arthritis 14 (40.0%). Psoriasis vulgaris 53 (96.4%) and Guttate psoriasis 1 (1.8%). Limbs and the trunk were the commonest involved sites. Palms and soles were the least affected body sites.

The duration of the skin psoriasis was 1-43 years, mean duration being 11.2 years ±SD 10.4. The duration of joint complaints was 1-25 years, mean duration being 7.3 years ±SD 7.1.

Table 2: Duration of Psoriasis of skin and that of joint involvement

	Duration of psoriasis of the skin				
	0-5 years	5-10 years	>10 years	TOTAL	p value
Psoriasis of skin	19 (34.5%)	14 (25.5%)	22 (40.0%)	55 (100.0%)	NS
Psoriatic arthritis	3 (15.8%)	4 (28.6%)	7 (31.8%)	14 (25.5%)	NS

NS: Not Significant statistically

On comparing duration of psoriasis of the skin and joint involvement equal number of patients, 7 (50%) had joint involvement within 10 years or after 10 years duration of psoriasis of the skin.

Table 3: Clinical types of psoriatic arthritis. (n=14)

Type of Psoriatic arthritis	Patients
Symmetric Polyarthritis	3 (21%)
Asymmetric Polyarthritis	2 (14%)
Combination of Spondylitis and Symmetric Polyarthritis	4 (29%)
Oligoarthritis	4 (29%)
Classical Isolated Distal inter-phalangeal joint of fingers	1 (7%)

Polyarthritis type of psoriatic arthritis occurred most frequently while Isolated Distal-inter-phalangeal joint type of Psoriatic arthritis was least frequent.

Table 4: Joints involved in Psoriatic Arthritis. (n=14)

Type of joints	Upper Limb	Lower Limb
Small Joints	(%)	(%)
▪ Distal inter-phalangeal	35.7	14.2
▪ Proximal inter-phalangeal	71	-
▪ Metacarpo-phalangeal & Metatarso-phalangeal joints.	21.4	-
Large Joints		
▪ Wrist/Ankle	28.5	50
▪ Elbow/Knee	42.8	50
▪ Shoulder/Hip	35.7	7.1

Small joints of the upper limb were involved most frequently.

DISCUSSION

The estimated prevalence of psoriatic arthritis among psoriasis patients in the world literature ranges from 6% to 42%.[3,4] In this study the incidence of psoriatic arthritis among patients of psoriasis at a tertiary medical centre in Mauritius was observed to be 18.2%.

Table 5: Percentage of patients with Psoriatic arthritis in various studies

	This study	Bedi[9]	Saeed *et al.*[10]	Prasad *et al.*[11]
Number of patients	55	530	104	472
Joint involvement	18.2%	10.3 %	35%	8.5%

This wide range of prevalence of psoriatic arthritis could be due to influence of several factors such as environment, ethnicity, absence of standardized validated criteria and methodology in the studies.

In this study the Polyarthritis type of PsA was predominant, followed by Oligoarthritis and Spondilytis in equal frequency. The least frequent joint involvement was isolated DIP. Polyarthritis was also reported to be the commonest type of psoriatic arthritis, in an Indian study by Rajendran *et al*[12], and an Iranian study by Shariati *et al*.[13] Sadek *et al* from Egypt observed Spondylitis (64.4%) as being the most common type.[14] The Malaysian Annual report recorded the Oligoarthritis type to be more frequent.[15] Moll and Wright's paper also identified the Oligoarthritis type of joint pattern, as the commonest type.[8] Gladman *et al* inferred that more joints became involved as psoriasis progressed, hence Polyarthritis pattern was more prominent.[16]

Half of patients in this study developed psoriatic arthritis within 10 years, and the remaining half, after more than 10 years of skin lesions. The association of psoriatic arthritis and duration of psoriasis of skin was statistically not significant. Psoriatic arthritis has been reported to occur within 10 years of duration of skin psoriasis.[8] One of the patients enrolled in the study had concurrent onset of joint involvement and skin lesions, while another patient reported having joint involvement 4 years prior to onset of skin lesions. Psoriasis arthritis can precede or appear simultaneously with skin psoriasis.[1]

The proximal-inter-phalangeal joints (PIP) of the fingers (71%) were observed to be most frequently involved, followed by the knee (50%) and the ankle joint (50%) in the study (Table 4). The report of joint most commonly affected by psoriatic arthritis differs: Rajendran *et al* reported the knee joint, Baker *et al*, the shoulder joint and Robert *et al*, the metatarsophalangeal joint (MTP).[11]

CONCLUSION

Among patients of psoriasis, Psoriatic arthritis was observed in about 1 out of 5 patients. It predominantly affected the female population as compared to males. The Polyarthritis type of Psoriatic arthritis was predominant. The proximal-inter-phalangeal joints (PIP) of the fingers were most frequently involved.

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