Clinical Pattern of Psoriatic Arthritis in Malaysian Population

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Introduction

Psoriatic arthritis (PsA) is a form of deforming erosive arthropathy which occurs in 10-25% of patients with psoriasis[1,2]. Early diagnosis and treatment of PsA may prevent irreversible joint damage and the resultant morbidity[1]. The objectives of this study are to investigate the prevalence, risk factors, clinical pattern and quality of life impact of PsA in Malaysian psoriatic patients.

Method

A cross-sectional study, conducted using data from the Malaysian Psoriasis Registry which were obtained from 16 dermatology centres throughout Malaysia between October 2007 and December 2009. All psoriasis patients have their diagnosis made by either a dermatologist or by a medical practitioner under the supervision of a dermatologist.

Statistic Analysis

Simple logistic regression analysis was used to estimate the crude odds ratio for univariable analysis with categorical independent variables. Multiple logistic regression analysis (stepwise) was then carried out for multivariable analysis. The p-values < 0.05 were considered statistically significant. All statistical analyses were done using PASW Statistics version 18 (SPSS Inc, Chicago, IL, USA).

Results

Among the 4445 patients registered, 717 (16.1%) patients had psoriatic arthritis.

Most patients with psoriatic arthropathy experienced joint pain at the time of initial presentation (82.9%). Joint swelling was present in 31.7% of cases, morning stiffness in 31.5% of cases, while 22.2% of patients had joint deformities.

The univariable analysis demonstrated that the risk of having joint disease was significantly associated with age, age of onset, duration of disease, gender, ethnicity, obesity group according to BMI defined by WHO, type of psoriasis, body surface area, total skin score, nail involvement, DLQI.

After adjusting for confounding factors by multiple logistic regression analysis (using stepwise Forward LR), there were 8 variables emerged as significant risk factors on the risk of having joint disease. (Refer Table 1)

Table 1: Factors associated with psoriatic arthritis
Logistic regression analysis of variables independently predictive of psoriatic arthritis

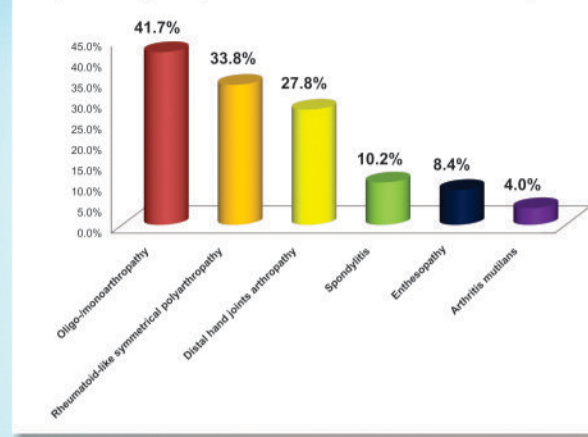| Variable	Present (n=717)		Multiple Logistic Regression[a]		
	n	%	OR[b]	(95% CI)	P-value
Age:					
< 18 years	10	1.4	1.00	-	-
18-40 years	197	27.5	4.40	(1.76, 10.98)	0.002
41-60 years	407	56.8	10.81	(4.34, 26.95)	<0.001
> 60 years	103	14.4	8.88	(3.42, 23.06)	<0.001
Age of onset:					
≤ 40 years (Type 1)	488	68.2	1.51	(1.16, 1.96)	0.002
> 40 years (Type 2)	228	31.8	1.00	-	-
Duration of disease:					
≤ 5 yrs	201	28.5			NS
> 5 yrs	504	71.5			
Gender:					
Male	354	49.4	1.00	-	-
Female	363	50.6	1.60	(1.29, 1.97)	<0.001
Ethnicity:					
Non-Indian	555	77.5	1.00	-	-
Indian	161	22.5	1.40	(1.08, 1.82)	0.011
Obesity group (WHO):					
BMI < 30.0	516	75.9	1.00	-	-
BMI ≥ 30.0	164	24.1	1.33	(1.05, 1.70)	0.020
Type of psoriasis:					
Non-erythrodermic	664	95.4			NS
Erythrodermic	32	4.6			
Body surface area:					
≤ 10%	403	66.9	1.00	-	-
> 10%	199	33.1	1.38	(1.09, 1.74)	0.007
Total skin score:					
< 10	639	89.9			NS
≥ 10	72	10.1			
Any type of nail involvement:					
Absence	175	24.4	1.00	-	-
Presence	542	75.6	2.19	(1.72, 2.79)	<0.001
DLQI:					
≤ 10	352	56.9	1.00	-	-
> 10	267	43.1	1.67	(1.33, 2.08)	<0.001

[a] Forward LR model was applied.
[b]Adjusted OR

Multicollinearity was checked and not found.

Hosmer-Lemeshow test (p=0.259), classification table (overall correctly classified percentage=83.2%) and area under the ROC curve (70.3%) were applied to check the model fitness.

Figure 1: Type of psoriatic arthritis observed in study cohort

Oligo-monoarthropathy 41.7%
Rheumatoid-like symmetrical polyarthropathy 33.8%
Distal hand joints arthropathy 27.8%
Spondylitis 10.2%
Enthesopathy 8.4%
Arthritis mutilans 4.0%

Compared with patients without arthritis, patients with PsA are more likely requiring systemic therapy and are associated with co-morbidities such as obesity, hypertension, hyperlipidaemia and Diabetes mellitus. (Refer Table 2)

They tend to have a poorer quality of life (mean DLQI: 10.17 vs 8.09; p<0.001) and greater impairment of productivity parameters (mean number of work day lost over a six-month period: 5.41 vs 0.92 days; p<0.001). (Refer Table 3)

Table 2: Comorbidities associated with psoriasis

Comorbidities	Present (n=717)		OR	(95% CI)	P-value
	n	%			
Diabetes Mellitus:	134	18.9	1.26	(1.03, 1.55)	0.028
Hypertension:	228	32.0	1.79	(1.50, 2.13)	<0.001
Hyperlipidaemia:	151	21.4	1.76	(1.44, 2.16)	<0.001
Ischaemic heart disease:	38	5.3	1.04	(0.73, 1.49)	0.826
Cerebrovascular disease:	8	1.1	0.80	(0.38, 1.69)	0.557
Obesity (WHO):					
BMI ≥ 30.0	164	24.1	1.41	(1.16, 1.72)	0.001

Table 3: Quality of life and productivity parameters observed in patients with psoriatic arthritis

Parameters	Present (n=717)		OR	(95% CI)	P-value
	n	%			
DLQI: Mean (SD)	10.17 (7.11)				
≤ 10	352	56.9	1.00	-	-
> 10	267	43.1	1.69	(1.42, 2.01)	<0.001
No. of clinic visits[*]:	4.21 (7.31)				
0 time	59	8.5	1.00	-	-
1-2 times	372	53.4	1.57	(1.17, 2.10)	0.003
≥ 3 times	266	38.2	2.20	(1.63, 2.97)	<0.001
No. of days off work[*]:	5.41 (19.73)				
0 day	612	87.9	1.00	-	-
1-3 days	42	6.0	1.54	(1.08, 2.19)	0.016
≥ 4 days	42	6.0	3.58	(2.40, 5.32)	<0.001
No. of hospital admissions[*]:	0.24 (1.30)				
0 time	662	94.8	1.00	-	-
1-2 times	32	4.6	3.36	(2.14, 5.26)	<0.001
≥ 3 times	4	0.6	3.57	(1.00, 12.67)	0.049

*over a six-month period

Discussion

Psoriatic arthritis (PsA) is a deforming arthropathy, up to 1/5 of our patients had joint deformities at the time of initial presentation. Medical practitioners often overlook PsA due to lack of awareness about the clinical heterogeneity or early signs of PsA like dactylitis and enthesitis. Psoriatic arthritis symptoms also often do not surface until years after the development of psoriasis. 71.5% of our patients developed joint disease after more than 5 years of disease duration.

Identification of risk factors for psoriatic arthritis holds the promise of improving our ability to diagnose this condition early and prevent it through risk-factor modification. Early detection and treatment of psoriatic arthritis will prevent the development of irreversible joint destruction[3,4].

Conclusion

16.1% of psoriasis patients in Malaysia have psoriatic arthritis. Psoriatic arthritis is associated with reduced quality of life and productivity, with greater association with metabolic and cardiovascular risk factors. Independent risk factors for psoriatic arthritis were earlier disease onset, severe disease, being older, female gender, Indian in origin, presence of psoriatic nail changes and obesity.

References

1. Gisondi P et al. The diagnostic and therapeutic challenge of early psoriatic arthritis. Dermatology 2010.
2. Chang CC et al. Malaysian psoriasis registry. Med J Malaysia 2008.
3. Ritchlin CT et al. Treatment recommendations for psoriatic arthritis (GRAPPA). ARD 2009.
4. Gossec L et al. European League Against Rheumatism (EULAR) recommendations for the management of psoriatic arthritis with pharmacological therapies. ARD 2011.