Clinical profile, morbidity and outcome of adult patients with psoriasis at a district hospital in Northern Malaysia

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SUMMARY

Introduction: Psoriasis is a common, chronic, relapsing, immune-mediated inflammatory disease. Our objective is to review the clinical profile, co-morbidities, and outcome of patients with psoriasis.

Methods: This is a cross-sectional study of outpatient psoriasis patients attending the dermatology clinic, Hospital Sultan Abdul Halim (HSAH) between January 2012 and June 2014. Data collection was based on Malaysian Psoriasis Registry.

Results: Among 296 patients with psoriasis, Malays were the most common 175 (59.1%), followed by Indians 82 (27.7%), Chinese 37 (12.5%) and others 2 (0.6%). Male to female ratio was 1.2:1. More than half (54.7%) of the patients had early onset disease (age 40 or less). Only 26 patients (8.8%) have positive family history. The most common clinical presentation was chronic plaque psoriasis (89.9%), followed by erythrodermic psoriasis (4.7%), guttate psoriasis (3.0%) and pustular psoriasis (1.7%). Twenty eight percent had nail involvement while arthropathy was seen only in 14.7%. Common triggers were sunlight (46.0%), stress (31.1%), trauma (5.4%), food (4.0%), pregnancy (4.0%), and upper respiratory tract infections (2.7%). Co-morbidities observed include ischaemic heart disease (7.1%), hypertension (26.7%), dyslipidemia (17.6%), and diabetes mellitus (22.0%).

All patients were on topical medications. About 6.8% of the patients were treated with phototherapy. One third of patients (35.5%) were given systemic therapy. Out of these, 84 patients (80.0%) were on methotrexate while only 16 (15.2%) on acitretin. None was on cyclosporine or biologic. In term of disease severity, 41.7% of patients had BSA >10% and 31.4% patients had DLQI > 10.

Conclusion: Our patients show a similar clinical profile and outcome as our Malaysian psoriasis population. However they tend to have a more severe disease. There is a need for a more effective targeted therapy for a better outcome.

KEY WORDS:
Psoriasis, Psoriatic Arthritis, Malaysian Psoriasis Registry

INTRODUCTION

Psoriasis is a common, non-communicable, chronic relapsing multi-system autoimmune skin disease. It is a lifelong disease associated with a number of morbidities and has an impact on the psychosocial aspects. The prevalence varies between 2.0% to 3.0% among different population and ethnic group worldwide.[1] The incidence is the highest in Caucasians and lowest among the Japanese and African descent.[2] In Europe, United Kingdom is one of the lowest at 2.2%[3] and Norway is the highest with a prevalence of 8.5%.[4] The prevalence in United States is 3.2%.[5] In the Asia-Pacific region, the incidence of psoriasis in Japan is relatively low. The estimated prevalence rate is approximately 0.05% to 0.1% compared to China 0.5%[6] and Taiwan 0.2%[7] which is higher. This is despite the genetic background is similar in these countries ethnologically. Other Asian countries like India, the prevalence were reported at the range of 0.4 to 2.8%.[8] Locally in Malaysia, the prevalence of psoriasis among Malaysian dermatology clinic attendees ranges from 2.0% to 6.0%.[9]

There are a growing number of studies being conducted and published locally and internationally with regards to various aspects of psoriasis. Although there are quite a number of local publications, these were mainly based on tertiary hospitals settings. This study was carried out to review the clinical profile, morbidity and outcome of adult patients with psoriasis in a district hospital located in northern peninsular Malaysia.

MATERIALS AND METHODS

This is a cross-sectional study of outpatient psoriasis patients attending the dermatology clinic in Hospital Sultan Abdul Halim (HSAH), Sungai Petani, Kedah over 30-months period from January 2012 to June 2014. The diagnosis of psoriasis is made based on clinical evaluation. Data collection was done based on the Malaysia Psoriasis Registry. Data were analyzed using descriptive analyses for socio-demographic of the patients, aggravating factors, co-morbidities, types of psoriasis, nail and joint involvements as well as the treatment modalities. Disease severity was based on the involvement of body surface area (BSA) and dermatology life quality index (DLQI). Univariable analysis was used to analyze the clinical data. The reported p value less than 0.05

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Table I: Relation of disease onset with background family history

	Age		
	Type 1	Type 2	Total
With family history	21 (13%)	5 (5%)	26
Without family history	141 (87%)	129 (95%)	270
Total	162	134	296
			p=0.005

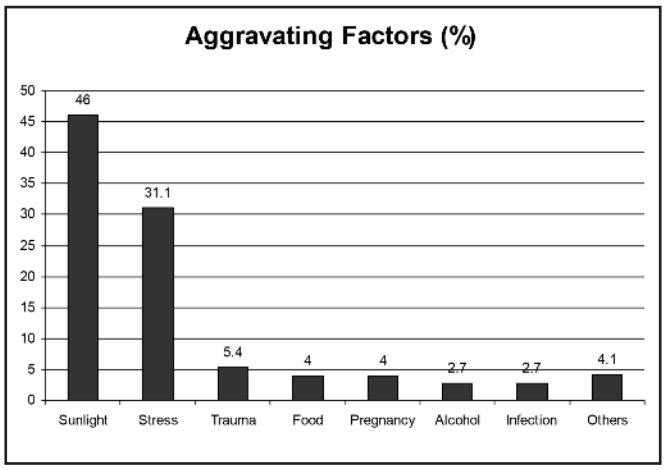

Fig. 1: Aggravating factors.

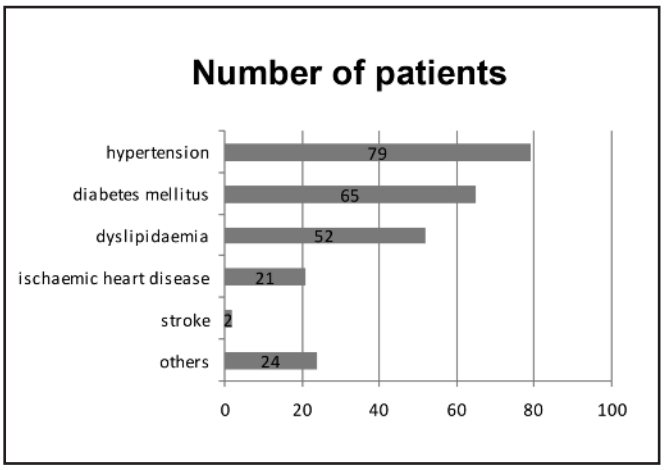

Fig. 2: Co-morbidities.

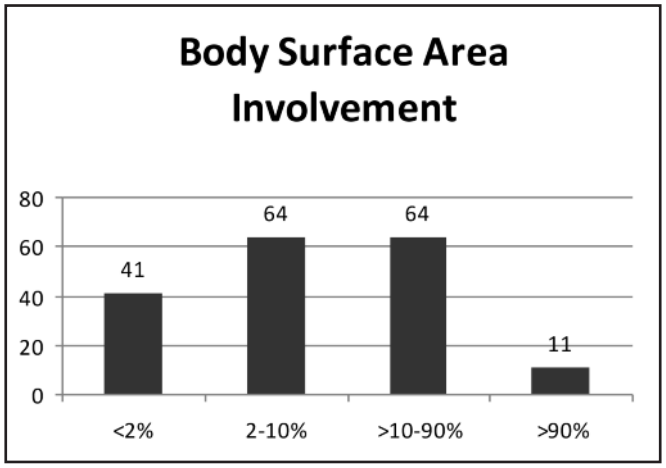

Fig. 3: Body surface area involvement (%).

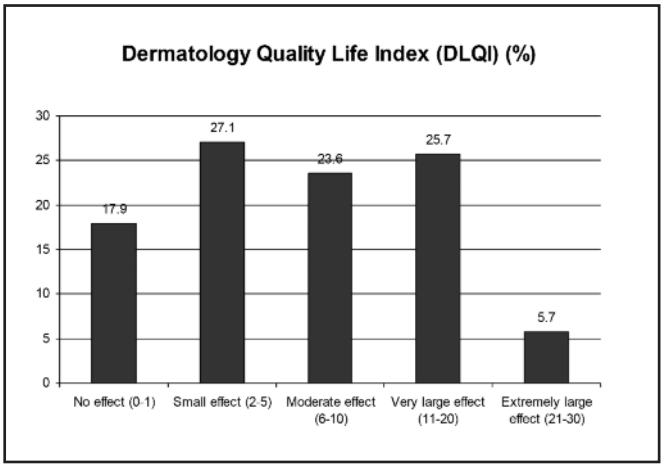

Fig. 4: Dermatology Life Quality Index.

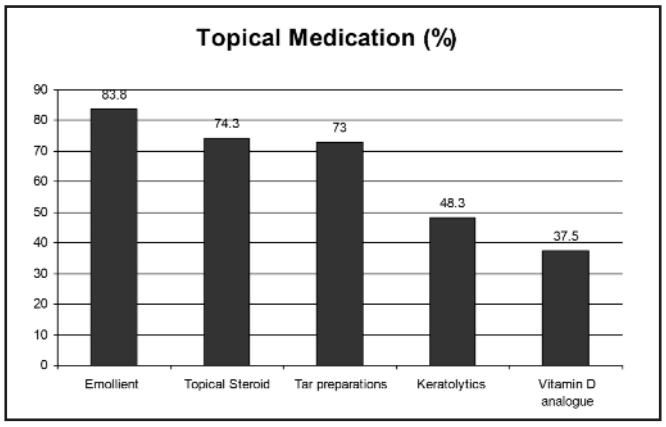

Fig. 5: Topical medication.

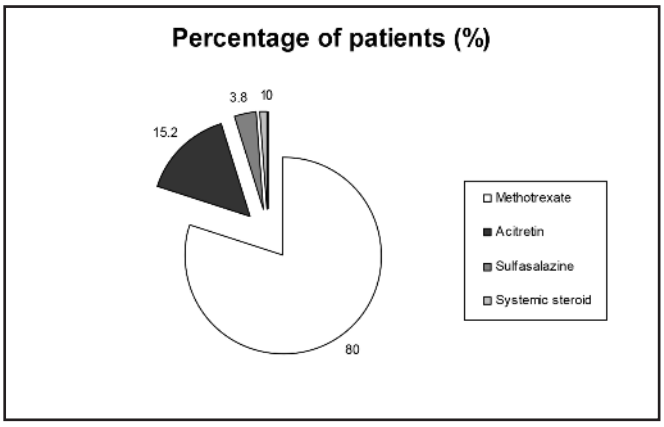

Fig. 6: Systemic medication.

was considered statistically significant. All statistical analyses used SPSS version 16.

RESULTS

A total of 296 patients were identified during the study period. Of these, 55.1% were male (n=163) with a male to female ratio of 1.2:1. Majority of the patients were Malays, at 59.1% (n=175), followed by Indian 27.7% (n=82) and Chinese 12.5% (n=37).

Mean age of the study population was 46.6 (SD±16.6). However, their disease manifestations tend to be much earlier at a mean age of 38.8 (SD±17.5). More than half of the patients (54.7%) had early onset disease (age 40 or less).

Only 8.8% (n=26) patients have a positive family history.

Seventy-four patients have identifiable aggravating factors (25.0%). Out of these, 46.0% were due to sunlight while 31.1% were triggered by stress. This was followed by trauma 5.4%, food 4.0%, pregnancy 4.0%, alcohol and infection 2.7% each. (Figure 1)

Common co-morbidities seen were hypertension (26.7%, n=79), diabetes mellitus (22.0%, n=65), dyslipidaemia (17.6%, n=52) and ischaemic heart disease (7.1%, n=21). (Figure 2) Majority of patients were overweight with body-mass–index (BMI) of 23.0 to 27.4 (40.3%, n=50) as well as obese with BMI more than 27.5 (39.5%, n=49).

Almost all the patients in our dermatology clinic has plaque psoriasis, 89.9% (n=266). Others include erythrodermic psoriasis 4.7% (n=14), guttate psoriasis 3.0% (n=9), pustular psoriasis 1.7% (n=5) as well as flexural psoriasis 0.7% (n=2).

Of the 286 patients, a-third or 28.0% patients had nail involvement (n=80). Of these, nail pitting was the most common sign seen (81.3%, n=65), followed by onycholysis (28.8% n=23), nail discolouration (15.0%, n=12), subungual hyperkeratosis (7.5%, n=6) and total nail dystrophy (0.3%, n=1).

On the other hand, psoriatic arthropathy was diagnosed in only 42 patients (14.7%).

In terms of disease severity, out of 180 available data, 41 patients (22.8%) had body surface area (BSA) involvement of less than 2%. Only 11 patients (6.0%) had BSA involvement >90%. The rest of the patients were well distributed among BSA involvement of 2% to 10% and 10% to 89% at 35.6% each. (Figure 3)

Only 140 patients agreed for DLQI assessment. One third of the patients (31.4%) had DLQI of more than 10. Thirty-six patients (25.7%) scored between 11 to 20 while 8 patients (5.7%) scored between 21 to 30. On the other hand, 17.9% (n=25) of the patients did not have any effect on their quality of life. The rest of the patient scored between 2 to 5 (27.1%, n= 38) and 23.6% scored between 6 to 10. (Figure 4)

For treatment, all patients were prescribed topical medications as the first line treatment. These include emollient (83.8%), topical steroid (74.3%), tar preparation (73.0%), keratolytics (48.3%) and vitamin D analogue like calcipotriol (37.5%). (Figure 5)

Twenty patients (6.8%) underwent narrow band ultraviolet B phototherapy. One third of the patients (35.5%) required systemic therapy. Of these, 84 patients (80.0%) were given methotrexate while only 16 patients (15.2%) were on acitretin. The rest of the 4 patients were given sulfasalazine (3.8%). (Figure 6)

DISCUSSION

From our study, the ethnic distribution among psoriasis patients seen in Hospital Sultan Abdul Halim (HSAH) dermatology clinic is different from our national population data. Although Malays remained the predominant group, there are more Indian patients compared to Chinese. However it corresponded with the ethnic break-up of patients attending the skin clinic of our hospital. (Malays 59% followed by Indians 23.6% and Chinese 15.7%).

Male-female ratio of 1.2:1 was similar to the national data. However, other international studies showed different results. Some has no gender preference.[6,10,11,12,13] Indian and Pakistan studies revealed a higher incidence of psoriasis among males at 2:1.[14-19]

Several large studies showed a bimodal pattern for age of onset with the first peak at 15 to 20 years old and a second peak at 55 to 60 years old.[20,21] This however was not reflected in our study as our patients age of presentation were equally distributed through the ages from those less than 20 years of age to more than 60. The mean age of the patients attending our clinic was 46 years, whereby the mean for the onset of the disease was much earlier at the age of 38.8 (SD ± 17.5). This was consistent with other local and Pakistan studies in which the mean age of onset was observed at the third decade.[12,19,22]

The disease onset can be further classified based on Henseler and Christophers' study in 1985. They reported two clinical presentations of psoriasis, type I and type II. Type 1 had an earlier onset, on or before the age of 40 and type II was later, after 40 years of age. It revealed the important association between early onset psoriasis with the HLA-Cw6 allele which predicts a more severe disease outcome.[21] In the Henseler and Christophers' study, three-quarters of the patients had early onset.

Guojonsson *et al*[23] concluded that HLA-Cw6 is more common among type I (55 to 80%) but only a small proportion in type 2 (15 to 20%). The study also revealed that Cw6 positive patients have a more severe psoriasis with more extensive plaques and higher incidence of Koebner's phenomenon. On the other hand, Cw6-negative patients had late onset disease with an increased likelihood of nail dystrophy and psoriatic arthritis. Data from Thailand showed that those with early onset psoriasis had a higher likelihood of family history. However, nail and joint involvement as well as severity of disease does not correlate with disease onset.[24]

In our setting, type I accounted for more than half of the patients (56.4%) which is the same as the studies above albeit

at a lower prevalence. A total of 8.8% of our patients had a positive family history. A significant family history (p=0.005) was observed among those with early onset disease. This finding was consistent with other studies.[20- 25]

Besides genetic factors, environmental factors also play an important role. One quarter of the patients had identifiable aggravating factors. The two most common aggravating factors among our patients are sunlight exposure and stress. Other studies showed that stress was the most important aggravating factor with incidence as high as 50.0 to 60.0%. [22,26] Local data by Siow K.Y. *et al* showed that 91% was due to stress. [12]

Four percent of the study population stated that seafood was one of the aggravating factors. Basavaraj KH. *et al*[27] postulated that an inflammatory diet could worsen psoriasis. These include food allergy as well as imbalanced omega-6 and omega-3 fatty acids. Some studies advocated gluten-free diet as psoriatic patients had increased sensitivity to gluten.[28,29] As vegetarians had a higher likelihood of consuming high amounts of vegetable oils and soy products with low amounts of fish, this would lead to a pro-inflammatory state. Hence, a low caloric and low protein diet is advocated. Seafood rich in iodide can also precipitate pustular psoriasis. [30]

Our patients have multiple co-morbidities like hypertension, diabetes, ischemic heart disease, obesity and stroke. Psoriasis increases the risk of obesity. A study from UK showed higher adjusted odds of obesity in patients with severe psoriasis (OR=1.8) than in patients with mild psoriasis (OR=1.3) compared with patients without psoriasis.[31] Vice versa, obesity is linked to psoriasis due to its chronic pro-inflammatory state as postulated by Basko-Plluska JL *et al.*[32] The striking feature in our study was that up to 79.5% of our patients were overweight (40.3%) and obese (39.5%). This value was definitely much higher compared to our national psoriasis data with 33.6% overweight and 22.5% obesity. [33] Obesity has been linked to a more severe disease. [34] However, this was not statistically significant in our study which could be due to small study sample.

Psoriasis has traditionally been described as non-pruritic skin disease in textbooks. However, recent literature reviews showed that pruritus in psoriasis is not an uncommon phenomenon. Pruritus is more prevalent than previously known and leads to a decrease in quality of life. Prevalence of pruritus ranges from 67.0% to 85.0%. [35,36,37,38] Newbold reported that up to 92.0% hospitalized psoriatic patients experiences occasional itch. [39] Gupta *et al* reported 67.0% hospitalized psoriatic patients suffers from moderate to severe pruritus.[37] Similar findings were also seen in a study conducted in ambulatory center which showed a prevalence of 79.0%. [40] In general, despite the different methods of itch assessment used in the different studies, pruritus in psoriasis is reported as of moderate severity. Our review based on the Dermatology Life Quality Index (DLQI) questionnaire, revealed that 89.3% patients had itchiness. The effect on their quality of life was further classified into 3 categories: very much, a lot and little effect. Majority of the patients had little effect (44.3%), followed by a lot (33.6%) and very much affected (11.4%). Pruritus intensity was significantly correlated with the degree of depressive symptoms and quality of life impairment. [41] Thus, pruritus should be acknowledged as a common disturbing symptom and the understanding of this complex pruritogenic mechanism involved in the disease process is important to create new treatment strategy.

Psoriatic arthropathy was reported at 14.7%, which is similar as reflected in our national data (15.0%). The worldwide prevalence of psoriasis arthritis otherwise varies greatly from 6.0 to 42.0% in Europe, United States and South Africa. Figures in Asian countries were much lower, at 1.0 to 9.0%.[33]

Table II showed that our cohort of patients may have a more severe disease as reflected by higher rate of treatment with phototherapy and systemic therapy, higher BSA involvement and comparable DLQI. Unfortunately due to limited resources, biologics therapy was not readily available. Thus, there is a need for the availability and optimization of effective targeted therapy for a better outcome.

CONCLUSION

Our cohort of patients showed a similar clinical profile and outcome as our Malaysian psoriasis population. However, they tend to have a more severe disease. Thus, there is a need for a more effective targeted therapy for a better outcome.

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