

# Clinical Profile, Treatment and Quality of Life Of Patients With Nail Psoriasis: Data From The Malaysian Psoriasis Registry

Nor Azila M Akil<sup>1</sup>, Suganthy Robinson<sup>2</sup>, Min Moon Tang<sup>2</sup>, Dawn Ambrose<sup>1</sup>

<sup>1</sup>Department of Dermatology, Hospital Ampang, Selangor, Malaysia

<sup>2</sup>Department of Dermatology, Hospital Kuala Lumpur, Kuala Lumpur Malaysia



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## Introduction

Psoriasis affects the nail<sup>1</sup>. This study aims to determine the clinical profile of Malaysians with nail psoriasis.

## Materials and Method

This is a multicenter retrospective cross-sectional study of psoriasis patients with nail disease who were notified to the Malaysian Psoriasis Registry (MPR) from January 2007 to December 2018. The sociodemographic details, clinical data and Dermatology Life Quality Index scores were obtained at first notification and analyzed.

## Results

- Among 21,735 psoriasis subjects, 11,876 (54.6%) had nail involvement
- Of the 8 patients with solely nail changes; 6 were adults and 2 were paediatric patients (<18 years) with 5 females and 3 males. All patients had pitting, 6 reported onycholysis, 4 had discoloration, 3 had subungual hyperkeratosis and 2 had total nail dystrophy. Only one had concomitant psoriatic arthropathy.

Table 1: Demographic Distribution of MPR Patients

Characteristics	With nail involvement	Without nail involvement	p-value
Mean age of onset of psoriasis (years) (mean ± SD)	33.88 ± 16.38	32.61 ± 17.62	<0.001
Gender, n (%)	n=11876	n=9226	
Male	7207 (60.7)	4508 (48.9)	
Female	4669 (39.3)	4718 (51.1)	<0.001
Ethnicity, n (%)	n=11876	n=9226	
Malay	5993 (50.5)	5446 (59.0)	
Chinese	2622 (22.1)	1394 (15.1)	
Indian	1834 (15.4)	1631 (17.7)	
Others	1427 (12.0)	755 (8.2)	
Family history of psoriasis, n (%)	n=11697	n=9076	
	2777 (23.7)	1991 (21.9)	0.002

Table 2: Clinical Characteristics of MPR Patients

Characteristics	With nail involvement	Without nail involvement	p-value
Mean Body Mass Index (kg/m <sup>2</sup> )	26.47 ± 5.9	26.03 ± 6.2	<0.001
History of smoking, n(%)	n=6829	n=5792	
	2557 (37.4)	1353 (23.4)	<0.001
Type of Psoriasis, n (%)	n=11408	n=8822	
Plaque	10604 (93.0)	8170 (92.6)	
Guttate	331 (2.9)	400 (4.5)	
Erythrodermic	304 (2.7)	82 (0.9)	
Palmoplantar non-pustular	50 (0.4)	37 (0.4)	
Generalized pustular	48 (0.4)	45 (0.5)	
Inverse	39 (0.3)	65 (0.8)	
Localized pustular	32 (0.3)	23 (0.3)	
Body surface area (BSA), n(%)	n=9451	n=6900	
<5	3473 (36.7)	3837 (55.6)	
5-10	3112 (32.9)	2019(29.3)	
10-90	2525 (26.7)	959 (13.9)	
>90	341 (3.7)	85 (1.2)	
Face & neck involvement, n (%)	n=11574	n=8802	
	6406 (55.8)	4027 (45.7)	<0.001
Scalp involvement, n (%)	n=11564	n=8939	
	9630 (83.2)	7036 (78.7)	<0.001
Disease duration (year) (mean ± SD)	9.84 ± 10.01	6.72 ± 8.65	<0.001
Comorbidities, n (%)			
Hypertension	3033 (26.2)	1875 (20.7)	<0.001
Diabetes Mellitus	1953 (16.8)	1322 (14.6)	<0.001
Dyslipidemia	2174 (19.0)	1194 (13.3)	<0.001
Cerebrovascular disease	201 (1.7)	99 (1.1)	<0.001
Ischaemic heart disease	618 (5.3)	386 (4.2)	0.001
Retroviral disease	72 (0.6)	31 (0.3)	0.005
Type of nail presentations, n (%)			
Pitting	8639 (72.7)	-	
Onycholysis	5508 (46.4)	-	
Discoloration	3543 (29.8)	-	
Subungual hyperkeratosis	1614 (13.6)	-	
Total nail dystrophy	586 (4.9)	-	
Psoriatic arthropathy, n (%)	n=11781	n=9177	
	2018 (17.1)	692 (7.5)	<0.001
Type of joint involvement, n (%)			
Oligo/monoarthropathy	829 (46.4)	251 (41.6)	0.04
Distal interphalangeal	639 (36.5)	210 (36.1)	0.84
Symmetrical polyarthropathy	590 (33.6)	176 (30.5)	0.17
Sacroiliitis	174 (10.2)	49 (8.7)	0.29
Enthesopathy	299 (16.8)	76 (12.9)	0.02
Arthritis mutilans	67 (3.9)	18 (3.2)	0.43

Table 3: Clinical Characteristics of MPR Patients

Characteristics	With nail involvement	Without nail involvement	p-value
Mean DLQI* (mean ± SD)	9.77 ± 6.84	9.39 ± 6.60	<0.001
DLQI* >10, n (%)	n=11127	n=19234	
	4564 (41.0)	8107 (42.1)	0.008
Severe psoriasis, n (%) (Body Surface Area >10 and/or DLQI* >10)	N=8916	N=6097	
	4789 (53.7)	2726 (44.7)	<0.001

Table 4: Treatment of patients with nail psoriasis

Type of Treatment	With nail involvement	Without nail involvement	p-value
Topical	n=11690	n=9060	
	11246 (96.2)	8444 (93.2)	<0.001
Phototherapy	N=11490	N=8940	
	420 (3.6)	128(1.4)	<0.001
Systemic therapy	N=11619	N=9006	
Methotrexate	2173 (18.7)	750 (8.3)	<0.001
Acitretin	1683 (14.5)	582 (6.5)	<0.001
Cyclosporine	450 (3.9)	127 (1.4)	<0.001
Biologics	109 (0.9)	34 (0.4)	<0.001
Hydroxyurea	61 (0.5)	14 (0.2)	<0.001
Systemic corticosteroids	16 (0.1)	6 (0.1)	0.12
	112 (1.0)	61 (0.7)	0.025

## Discussion

- The incidence of nail psoriasis in Malaysia is similar to the studies done in Thailand and Germany<sup>2-4</sup>
- Our cohort showed a smaller number of pure nail disease (0.07%) compared to previous reports of 1% to 5%<sup>5</sup>. This is probably due to less patients being referred to tertiary centres for pure nail involvement or under diagnosis.
- Studies from Thailand<sup>2</sup>, Netherlands<sup>6</sup> and Singapore<sup>7</sup> reported pitting as the most common presentation, with nail disease showing a significant association with increased risk for psoriatic arthropathy (PsA) and enthesopathy<sup>8</sup>. Nail involvement has been reported to occur up to 86% in patients with PsA<sup>9</sup> and is considered an independent prognostic factor for the development of PsA<sup>4</sup>.
- Patients with nail psoriasis have a higher disease burden with significantly higher Dermatology Life Quality Index (DLQI) and Nail Psoriasis QoL10 (NPQ10)<sup>6</sup> scores and are associated with more severe disease based on body surface area (BSA)<sup>2</sup>.
- In 2019, the International Psoriasis Council<sup>10</sup> included nail disease as a special area to qualify for systemic/biologic treatment indicating a high disease burden even with minimal involvement of BSA.
- Patients with nail disease should have a lower threshold for systemic treatment despite minimal skin involvement<sup>11</sup>
- In our cohort, we noted male psoriasis patients with severe disease were more likely to have nail disease and significant association with PsA.
- Topical steroids are one of the most used treatment for nail psoriasis, however it is more effective in treating nail matrix than the nail bed<sup>12</sup>. Second line topical treatment include topical vitamin D analogues, topical retinoids, topical keratolytic agents and topical 0.1% tacrolimus<sup>13</sup>. Treatment for nail psoriasis now, however is moving towards systemic therapy such as methotrexate, acitretin, cyclosporine and biologics<sup>12,14</sup> especially for severe nail involvement.
- Secukinumab, an anti IL-17a inhibitor, is the only anti-interleukin drug to date that has data on long-term efficacy and safety in patients with nail psoriasis<sup>15</sup>
- Even though more patients with nail involvement were treated with systemic therapy in our cohort, they had a significantly poorer quality of life compared to those without. This may reflect treatment inadequacies due to under or non treatment or inavailability of certain medications that can be offered to patients. Moreover, the DLQI is designed for general skin conditions and may not have the relevant content to assess patients with nail psoriasis.
- We recommend prospective studies using the Nail Psoriasis Severity Index (NAPSI)<sup>16</sup> and Nail Assessment in Psoriasis and Psoriatic Arthritis (NAPPA)<sup>17</sup> to look into nail disease severity and response to treatment among Malaysian patients.

## Conclusion

Nail psoriasis was present in 54.6% of patients in the MPR with pitting being the most common presentation. Nail disease was associated with multiple comorbidities, PsA, severe psoriasis and were more likely to require systemic treatment.

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