





Effect Of Methotrexate Versus Methotrexate And Apremilast On Parameters Of Metabolic Syndrome In Patients Of Chronic Plaque Psoriasis: An Observational Study

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## **Introduction & Objectives:**

Psoriasis is a chronic inflammatory skin disorder affecting 2-3% of the global population, characterized by red plaques with silvery scales on elbows, knees, scalp, and lower back. It is associated with metabolic syndrome, including obesity, insulin resistance, abnormal lipids, and hypertension, which increase cardiovascular risks.

**Primary Objective:** To study the effect of combined methotrexate and apremilast on parameters of metabolic syndrome in chronic plaque psoriasis patients compared to methotrexate alone. **Secondary Objective:** To assess the safety profile of this combination therapy in controlling parameters of metabolic syndrome compared to methotrexate alone

#### **Materials & Methods:**

The study included 46 patients, divided equally between methotrexate monotherapy (Group 1) and methotrexate plus apremilast combination therapy (Group 2). Over four visits, clinical and biochemical parameters, including waist circumference, BMI, weight, PASI, BSA, DLQI, lipid and glucose profiles, liver and renal function tests, were assessed. Data analysis used descriptive and inferential statistics, including repeated measures ANOVA.

## **Results:**

Significant differences were observed between the two groups in waist circumference, BMI, weight, lipid profile (HDL, LDL, triglycerides, VLDL), glucose profile (FBS, HbA1c), and liver function parameters (total bilirubin, direct bilirubin, serum globulin). The combination therapy group showed improvements in body composition, lipid profile, glucose metabolism, and a more favorable renal profile. Both groups improved PASI, BSA, and DLQI scores, though not significantly.

## **Conclusion:**

Combining methotrexate with apremilast may improve parameters of metabolic syndrome in chronic plaque psoriasis patients more effectively than methotrexate alone. Larger randomized controlled trials are needed to confirm these findings and establish the long-term efficacy and safety of this combination.







## Balancing Efficacy and Safety: A Meta-Analysis of Oral JAK 1/2 Inhibitors in Moderate-to-Severe Plaque Psoriasis

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## **Introduction & Objectives**

Randomized controlled trials (RCTs) demonstrate the efficacy of oral JAK 1/2 inhibitors in treating moderate-to-severe plaque psoriasis. Prior meta-analyses support Tofacitinib (JAK 1 inhibitor) efficacy for psoriasis and psoriatic arthritis through 52 weeks, with safety findings consistent with earlier studies. Evidence also supports JAK 2 inhibitors' efficacy in moderate-to-severe plaque psoriasis. However, risks such as cardiovascular events, infections, and patient tolerability with oral JAK 1/2 inhibitors remain poorly understood.

#### **Materials & Methods**

A systematic search of PubMed, Scopus, and Cochrane databases identified RCTs comparing oral JAK 1 inhibitors (Tofacitinib) or JAK 2 inhibitors (Zasocitinib, Deucravacitinib) to placebo in patients with moderate-to-severe plaque psoriasis. Outcomes assessed included: (1) headaches, (2) discontinuation due to adverse events, (3) nasopharyngitis and upper respiratory infections, (4) lymphopenia and neutropenia, (5) hypertension, (6) hypercholesterolemia, (7) Herpes Zoster, and (8)  $\geq$ 75% reduction in Psoriasis Area and Severity Index (PASI 75). A random-effects model was used for outcomes with high heterogeneity ( $I^2 > 50\%$ ).

#### **Results**

Five RCTs involving 4,198 patients (3,107 treated with oral JAK 1/2 inhibitors) were included. Combined oral JAK 1/2 inhibitors showed:

- Headaches: Significantly higher risk (RR 1.78; 95% CI 1.22-2.59;p = 0.003), with similar risks for JAK 1 (RR 1.84;p = 0.05) and JAK 2 (RR 1.75; p = 0.02).
- Hypercholesterolemia: Higher risk overall (RR 2.60; p = 0.03), primarily with JAK 1 inhibitors (RR 2.87; p = 0.02). Limited data for JAK 2 inhibitors showed no events in most studies.
- Hypertension: Tripled risk with JAK 2 inhibitors (RR 3.11; p = 0.01).
- Nasopharyngitis and upper respiratory infections: Increased risk for combined JAK inhibitors (RR 1.37;p = 0.04), but not for JAK 1 inhibitors alone.
- Lymphopenia and neutropenia: No significant differences compared to placebo.
- Herpes Zoster: No significant increase in risk (RR 2.38; p = 0.16).
- PASI 75: Significantly higher likelihood of achieving PASI 75 (OR 10.65;*p* < 0.00001).

#### **Conclusion**

Oral JAK 1/2 inhibitors demonstrate a favorable safety profile, with no significant increase in treatment discontinuation, leukopenia, neutropenia, or Herpes Zoster risk. However, they are associated with higher risks of headaches, nasopharyngitis, and cardiovascular issues, including hypertension (JAK 2) and hypercholesterolemia (JAK 1). Despite these risks, they are highly effective in achieving PASI 75. Patients with cardiovascular comorbidities should be closely monitored during treatment. Further research is needed to better understand long-term safety and subgroup-specific risks.

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## Hypercholesterolaemia

	Oral JAK 1/2	nhibitors	Place	ebo		Risk ratio	Risk ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI	M-H, Random, 95% CI
Armstrong- zasocitinib combined	1	207	0	52	7.5%	0.76 [0.03 , 18.50]	
OPT Pivotal 1-Tofacitinib combined	18	723	1	177	18.9%	4.41 [0.59 , 32.79]	-
OPT Pivotal 2-Tofacitinib combined	40	763	4	198	73.8%	2.57 [0.93 , 7.09]	-
Total		1693		425	100.0%	2.60 [1.09 , 6.21]	•
Total events:	59		5				*
Test for overall effect: Z = 2.15 (P =	0.03)					0.6	01 0.1 1 10 100
Test for subgroup differences: Not a	pplicable					Fav	ours Placebo Favours Oral Jak1/2
Heterogeneity: Teu2 = 0.00; Chi2 = 0.	95 Af = 2 (P = 1	0.050 0 = 0	D.C.				

## JAK 1 inhibitor subgroup

	Oral JAK 1/2 i	nhibitors	Place	ebo		Risk ratio	Risk ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95%CI	M-H, Random, 95%CI
X Armstrong- zasocitinib combined	1	207	0	52	0.0%	0.76 [0.03 , 18.50]	
✓ OPT Pivotal 1-Tofacitinib combined	18	723	1	177	20.4%	4.41 [0.59 , 32.79]	
✓ OPT Pivotal 2-Tofacitinib combined	40	783	4	196	79.6%	2.57 [0.93 , 7.09]	-
Total		1486		373	100.0%	2.87 [1.16 , 7.10]	•
Total events:	58		5				-
Test for overall effect: Z = 2.28 (P = 0.0	02)						0.01 0.1 1 10 100
Test for subgroup differences: Not app	licable						Favours Placebo Favours Oral Jak1/2 inhibi
Heterogeneity: Tau <sup>2</sup> = 0.00: Chi <sup>2</sup> = 0.22	off = 1 (P = 0.6	4)- P = 0%					

#### Hypertension, only JAK 2 inhibitor.

Study or Subgroup	Oral JAK 1/2 in Events	hibitors Total	Place Events		Wainht	Risk ratio M-H, Random, 95% C	Risk ratio M-H, Random, 95% CI
study or subgroup	Events	iotai	Events	iotai	weight	m-n, random, sost	m-n, Randon, 50%CI
Armstrong- zasocitinib combined	2	207	0	52	8.2%	1.27 [0.08 , 28.14	-
POETYK PSO-1-Deuoravaoitinib 6mg	14	531	0	165	9.5%	9.05 (0.54 , 150.87	1 +
POETYK PSO-2-Deucravacitinib 6mg	25	833	5	501	82.3%	3.01 [1.16 , 7.81	1 -
Total		1571		718	100.0%	3.11 [1.31 , 7.39	ı 🔷
Total events:	41		5				
Test for overall effect: Z = 2.57 (P = 0.0	11)						0.005 0.1 1 10 200
Test for subgroup differences: Not appl	icable						Favours Placebo Favours Oral Jak 2
Heterogeneity: Tau2 = 0.00; Chi2 = 0.94	. df = 2 (P = 0.63)	; I <sup>2</sup> = 0%					

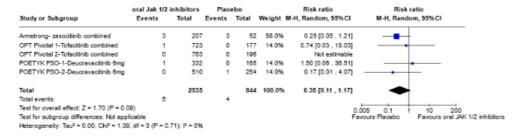
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	Oral JAK 1/2 i	nhibitors	Place	ebo		Risk ratio	Risk ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI	M-H, Random, 95% CI
Armstrong- zasocitinib combined	9	207	. 0	52	23.0%	4.84 [0.29 , 81.86	n —
OPT Pivotal 1-Tofacitinib combined	3	723	0	177	21.0%	1.72 [0.09 , 33.17	i
OPT Pivotal 2-Tofacitinib combined	2	763	1	198	32.0%	0.51 [0.05 , 5.64	ı — • — — — — — — — — — — — — — — — — —
POETYK PSO-1-Deugravacitinib 6mg	1	332	1	165	24.0%	0.50 [0.03 , 7.90	ı ———
POETYK PSO-2-Deuoravacitinib 6mg	0	510	0	254	+	Not estimable	•
Total		2535	i	844	100.0%	1.10 [0.28 , 4.27	ı 📥
Total events:	15		2				T
Test for overall effect: $Z = 0.14$ (P = 0.8	19)						0.01 0.1 1 10 100
Test for subgroup differences: Not app	licable						Favours Placebo Favours JAK 1/2 inhi
Heteroneneity: Teu² = 0.00; Chi² = 2.04	M = 3 (P = 0.5	00 P = 096					

## Subgroup above 10 mg

	Oral JAK 1/2 dose 10 m	ng or above	Place	ebo		Odds ratio	Odds ratio
Study or Subgroup	Events	Total	Events	Total	Weight I	M-H, Random, 95% CI	M-H, Random, 95% CI
Armstrong-zasocitinib 15mg	4	105	0	52	29.2%	4.66 [0.25 , 88.12]	
OPT Pivotal 1-Tofacitinib 10 mg BID	2	360	0	177	27.3%	2.48 [0.12 , 51.84]	
OPT Pivotal 2-Tofacitinib 10 mg BID	2	381	1	196	43.6%	1.03 [0.09 , 11.42]	
Total		846		425	100.0%	2.03 [0.41 , 9.94]	-
Total events:	8		1				
Test for overall effect: Z = 0.87 (P = 0.3	38)					0.	01 0.1 1 10 100
Test for subgroup differences: Not app	licable						yours Placebo Favours Oral JA
Heterogeneity: Tau* = 0.00; Chi* = 0.68	5, df = 2 (P = 0.72); F = 0	1%					

## Neutropenia



#### HERPES ZOSTER

	Oral JAK 1/2 i	nhibtiors	Place	ebo		Risk ratio	Risk ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95%CI	M-H, Random, 95%CI
Armstrong- zasocitinib combined	1	207	0	52	14.7%	0.76 [0.03 , 18.50]	
OPT Pivotal 1-Tofacitinib combined	8	723	0	177	18.5%	4.18 [0.24 , 72.07]	
OPT Pivotal 2-Tofacitinib combined	4	763	0	196	17.6%	2.32 [0.13 , 42.92]	
POETYK PSO-1-Deucravacitinib 6mg	5	531	0	165	17.9%	3.43 [0.19, 61.75]	
POETYK PSO-2-Deucravacitinib 6mg	4	833	1	501	31.3%	2.41 [0.27 , 21.46]	
Total		3057		1091	100.0%	2.38 [0.70 , 8.10]	•
Total events:	22		1				
Test for overall effect: Z = 1.39 (P = 0.1	16)					0.6	01 0.1 1 10 100
Test for subgroup differences: Not app	licable					Favours Oral Jak	
Heterogeneity: Tau2 = 0.00: Chi2 = 0.73	2 df = 4 /D = 0 0	5): P = 0%					

# HEADACHE

	Oral Jak 1/2 in	hibitors	Place	ebo		Risk ratio	Risk ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95%CI	M-H, Random, 95% CI
Armstrong- zesocitinib combined	4	207	0	52	1.7%	2.29 [0.13 , 41.93	1
OPT Pivotal 1-Tofacitinib combined	49	723	5	177	17.2%	2.40 [0.97 , 5.93	i
OPT Pivotal 2-Tofacitinib combined	34	763	6	196	19.4%	1.46 [0.62 , 3.42	1 +
POETYK PSO-1-Deucravacitinib 6mg	35	531	5	165	16.7%	2.18 [0.87 , 5.46	i +-
POETYK PSO-2-Deucravacitinib 6mg	45	883	16	501	45.1%	1.60 [0.91 , 2.79	i <del> -</del> -
Total		3107		1091	100.0%	1.78 [1.22 , 2.59	ı 👆
Total events:	167		32				.  *
Test for overall effect: Z = 3.01 (P = 0.0)	03)						0.01 0.1 1 10 100
Test for subgroup differences: Not appli	cable						Favours Placebo Favours oral JAH
Heterogeneity: Tau <sup>2</sup> = 0.00; Chi <sup>2</sup> = 1.00,	df = 4 (P = 0.9	1); P = 0%					

#### NASOPHARYNGITIS AND UPPER RESPIRATORY TRACT INFECTION

	Oral JAK 1/2 i		Place			Risk ratio	Risk ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95%CI	M-H, Random, 95%CI
Armstrong- zasocitinib combined	6	207	2	52	3.2%	0.75 [0.16 , 3.63]	
OPT Pivotal 1-Tofacitinib combined	92	723	25	177	24.5%	0.90 [0.60 , 1.36]	+
OPT Pivotal 2-Tofacitinib combined	101	763	17	196	20.4%	1.53 [0.94, 2.49]	•
POETYK PSO-1-Deucravacifinib 6mg	42	332	13	165	16.1%	1.61 [0.89 , 2.91]	-
POETYK PSO-2-Deucravacitinib 6mg	207	833	74	501	35.7%	1.68 [1.32 , 2.14]	•
Total		2858		1091	100.0%	1.37 [1.02 , 1.84]	•
Total events:	448		131				*
Test for overall effect: Z = 2.09 (P = 0.0	14)					0.01	0.1 1 10 100
Test for subgroup differences: Not app	licable					Favours Oral JAK 1	
Heterogeneity: Tau2 = 0.05; Chi2 = 7.46	6, df = 4 (P = 0.1	1); I <sup>2</sup> = 46%					

# Subgroup JAK 1 inhibitor: Nasopharyngitis and Upper Respiratory Infection

	Oral JAK 1/2 i	inhibitors	Place	ebo		Risk ratio	Risk ratio
Study or Subgroup	Events	Total	Events	Total	Weight M	M-H, Random, 95%CI	M-H, Random, 95% CI
X Armstrong- zasocitinib combined	6	207	2	52	0.0%	0.75 [0.16 , 3.63]	
✓ OPT Pivotal 1-Tofacitinib combined	92	723	25	177	53.3%	0.90 [0.60 , 1.36]	
✓ OPT Pivotal 2-Tofacitinib combined	101	763	17	196	46.7%	1.53 [0.94, 2.49]	-
X POETYK PSO-1-Deucravacitinib 6mg	42	332	13	165	0.0%	1.61 [0.89 , 2.91]	
X POETYK PSO-2-Deucravacitinib 6mg	207	833	74	501	0.0%	1.68 [1.32 , 2.14]	
Total		1486		373	100.0%	1.15 [0.69 , 1.94]	•
Total events:	193		42				ľ
Test for overall effect; Z = 0.54 (P = 0.59)	)					0.6	1 0 1 1 10 100
Test for subgroup differences: Not applic	able					Favours Oral JAK	
Heterogeneity: Tau2 = 0.09; Chi2 = 2.65,	df = 1 (P = 0.10);	P = 62%					

# Subgroup JAK 2 inhibitor: Nasopharyngitis and Upper Respiratory Infection

	Oral JAK 1/2	inhibitors	Plac	ebo		Risk ratio	Risk ratio
Study or Subgroup	Events	Total	Events	Total	Weight M	-H, Random, 95%CI	M-H, Random, 95%CI
✓ Armstrong- zasocitinib combined	6	207	2	52	2.0%	0.75 [0.16 , 3.63]	
X OPT Pivotal 1-Tofacitinib combined	92	723	25	177	0.0%	0.90 [0.60 , 1.36]	
X OPT Pivotal 2-Tofacitinib combined	101	763	17	196	0.0%	1.53 [0.94, 2.49]	
✓ POETYK PSO-1-Deucravacitinib 6mg	42	332	13	165	13.9%	1.61 [0.89 , 2.91]	<del> -</del>
√ POETYK PSO-2-Deucravacitinib 6mg	207	833	74	501	84.1%	1.68 [1.32 , 2.14]	•
Total		1372		718	100.0%	1.65 [1.32 , 2.05]	•
Total events:	255		89				*
Test for overall effect: Z = 4.41 (P < 0.00)	01)					0.0	1 01 1 10 100
Test for subgroup differences: Not applica	able					Favours Oral JAK	
Heterogeneity: Tau2 = 0.00; Chi2 = 0.99, (		; I <sup>2</sup> = 0%					
		; I² = 0%				Favours Oral JAK	1/2 inhibitors Favours Place

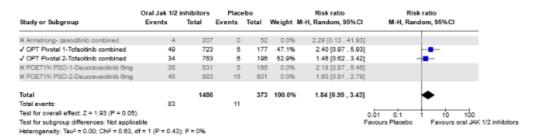
#### **HEADACHE**

	Oral Jak 1/2 is	hibitors	Place	ebo		Risk ratio	Risk ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95%CI	M-H, Random, 95% CI
Armstrong- zasocitinib combined	4	207	0	52	1.7%	2.29 [0.13 , 41.93]	
OPT Pivotal 1-Tofacitinib combined	49	723	5	177	17.2%	2.40 [0.97 , 5.93]	-
OPT Pivotal 2-Tofacitinib combined	34	763	8	198	19.4%	1.48 [0.62 , 3.42]	
POETYK PSO-1-Deucravacitinib 6mg	35	531	5	165	16.7%	2.18 [0.87 , 5.46]	-
POETYK PSO-2-Deucravacitinib 6mg	45	883	16	501	45.1%	1.60 [0.91 , 2.79]	-
Total		3107		1091	100.0%	1.78 [1.22 , 2.59]	•
Total events:	167		32				
Test for overall effect: Z = 3.01 (P = 0.0	03)						0.01 0.1 1 10 100
Test for subgroup differences: Not appli	icable					F	Favours Placebo Favours oral JAK
Heterogeneity: Tau2 = 0.00; Chi2 = 1.00	df = 4 (P = 0.9	1); P = 0%					

#### Subgroup JAK 2 inhibitor: Headache

	Oral Jak 1/2 i	nhibitors	Place	ebo		Risk ratio	Risk ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95%C	M-H, Random, 95%CI
✓ Armstrong- zasocitinib combined	4	207	0	52	2.6%	2.29 [0.13 , 41.93	3]
X OPT Pivotal 1-Tofacitinib combined	49	723	5	177	0.0%	2.40 [0.97 , 5.93	3]
X OPT Pivotal 2-Tofacitinib combined	34	783	8	198	0.0%	1.46 [0.62 , 3.42	2]
✓ POETYK PSO-1-Deucravacitinib 6mg	35	531	5	165	26.3%	2.18 [0.87 , 5.46	51
✓ POETYK PSO-2-Deucravacitinib 6mg	45	883	18	501	71.1%	1.60 [0.91 , 2.78	rg <u>=</u> -
Total		1621		718	100.0%	1.75 [1.09 , 2.80	ı •
Total events:	84		21				
Test for overall effect: Z = 2.32 (P = 0.02)							0.01 0.1 1 10 100
Test for subgroup differences: Not applica	ble						Favours Placebo Favours oral JAK
Heterogeneity: Tau <sup>2</sup> = 0.00; Chi <sup>2</sup> = 0.35, d	f = 2 (P = 0.84)	I <sup>2</sup> = 0%					

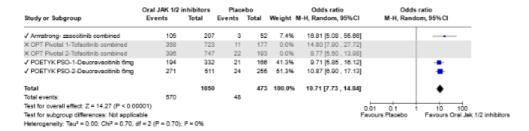
#### Subgroup JAK 1 inhibitor: Headache



# PASI at least and above 75

	Oral JAK 1/2 i	nhibitors	Plac	ebo		Odds ratio	Odds ratio	
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95%C	M-H, Random, 95%	CI
Armstrong- zasocitinib combined	105	207	3	52	4.2%	16.81 [5.08 , 55.66	n —	
OPT Pivotal 1-Tofacitinib combined	358	723	11	177	15.3%	14.80 [7.90 , 27.72	a –	•
OPT Pivotal 2-Tofacitinib combined	396	747	22	193	27.7%	8.77 [5.50 , 13.98	3] -	-
POETYK PSO-1-Deucravacitinib 6mg	194	332	21	166	23.5%	9.71 [5.85 , 16.12	2] -	-
POETYK PSO-2-Deucravacitinib 6mg	271	511	24	255	29.2%	10.87 [6.90 , 17.13	3] -	٠
Total		2520	)	843	100.0%	10.65 [8.33 , 13.62	n	•
Total events:	1324		81				,	
Test for overall effect: Z = 18.88 (P < 0	.00001)						0.01 0.1 1 10	100
Test for subgroup differences: Not app	licable							urs Oral Jak 1/2 inhibit
Heterogeneity: Tau <sup>2</sup> = 0.00; Chi <sup>2</sup> = 2.45	5. df = 4 (P = 0.65	5): P = 096						

## Subgroup JAK 2 inhibitor



#### Subgroup JAK 1 inhibitor









# observational study of biologic therapy optimization in patients with psoriasis: a 20-year experience in a tertiary care hospital

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## **Introduction & Objectives:**

Biologic therapies (BT) are the most effective therapeutic alternative to obtain control of psoriasis. While when and how to put it on is well defined, there is no robust evidence on when and how to reduce or discontinue BT after controlling the disease, a process known as optimization. We present a retrospective observational study with the aim of describing optimization outcomes in a tertiary hospital over 20 years.

#### **Materials & Methods:**

Single-center descriptive retrospective observational study that included a total of 209 patients who had received BT for a diagnosis of psoriasis between January 1, 2024 and December 31, 2024.

## **Results:**

Of the 209 patients, 56 (27%) were effectively optimized (EO). Of these patients, 30 (54%) are on anti-TNF, 8 (14%) on anti-IL17, 9 (16%) on anti-IL12/23 and 9 (16%) on anti-IL23. Of the OE patients, 20 (36%) had received at least one other BT previously; It was done by dose interval lengthening in 45 (80%), by dose decrease in 1 (2%), by induction avoidance in 9 (16%) and by discontinuation of BT in 3 (5%) patients. Adalimumab with 26 (46%) patients and ustekinumab with 9 (16%) patients are the BT with more EO patients. According to target, 24% of patients who have received an anti-IL123, 19% of those who have received an anti-IL12/23, 14% of anti-TNF and 1% of anti-IL17 have been EO. The highest EO rate (EO/total optimization attempts) was obtained with anti-IL23 with 75%, with Risankizumab standing out with 100%.

#### **Conclusion:**

In conclusion, one out of every 4 patients with BT is EO. Adalimumab stands out as the BT that has more EO patients and anti-IL23, for its EO rate and the effective optimization in one out of every four anti-IL23 treatments initiated. Our study shows the status of BT optimization in psoriasis in a dermatology service for 20 years with the aim of providing data to know the reality of BT in our hospital.







## 5 year outcomes in patients treated with brodalumab - data from daily clinical practice

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**Introduction & Objectives:** Biologic therapy is a well established strategy for managing moderate to severe plaque psoriasis. The purpose of our study was to follow-up patients treated with brodalumab as part of daily clinical practice and to monitor them over a 5-year period, answering contemporary clinical questions such as:

- Efficacy and maintenance of response over time in bio- naïve and bio- experienced patients receiving another anti-IL17.
- Response in specific locations (nails, scalp, genital area)
- Correlations between psoriasis duration and response to treatment.
- Disease modification, how feasible it is under brodalumab

**Materials & Methods:** A single-center retrospective observational study in 73 patients with moderate to severe plaque psoriasis treated with brodalumab was conducted in Dermatologic Department of Tzaneio Hospital in Greece and lasted 5 years. Patients had a mean age of 57.7 years old, 58.9% were male with baseline mean  $\pm$  SD PASI score 16.7  $\pm$  5.2, and mean  $\pm$  SD DLQI score 13.8  $\pm$  2.9.Of the 73 patients, 30 presented with psoriasis in difficult to treat locations : 46.7% nail disease, 20% scalp and 10% genitalia. Bio-experienced patients were 54.8% of which 26% were previously treated with apremilast and 20.5% with secukinumab. Follow-up was every 3 months

**Results:** Compared with the baseline, the percentage of patients achieving PASI 90 (90% improvement -reduction in PASI score) and PASI 100 increased rapidly, was recorded as zero for all patients from their 11th visit. Six patients were recorded at month 54, 2 at month 60, and 2 at month 63. Mean  $\pm$  SD DLQI score decreased from 13.8  $\pm$  2.9 at baseline to 2.6  $\pm$  2.7 and 0.8  $\pm$  1.4 at 3 and 6 months, respectively; biologic naïve patients had greater DLQI score reduction from baseline following treatment with brodalumab as compared with patients with prior biologic treatment administration (p=0.038). Patients with nail and scalp psoriasis had a better PASI response with p value 0.02 and 0.04 respectively. Patients with long disease duration >8 years and 5-8 years had higher initial PASI score 16.9 and 17.7 respectively, compared to those with recent disease onset <5 years with initial PASI 14.9. Regardless of disease chronicity, there is no difference in the response to brodalumab in patients by group/years of disease (p-value 0.22 - does not show a statistically significant difference). Of the 73 patients with psoriasis, 15 (20.5%) underwent an intra-class switch from secukinumab, while 58 patients (79.5%) did not undergo an intra-class switch. In patients receiving secukinumab, intra-class to brodalumab was effective in PASI and DLQI score but the course of improvement was less smooth with fluctuations compared to non intra-class switch patients.

**Conclusion:** According to our knowledge, this is the first real world observational study with 5 years outcomes that explores treatment with brodalumab in psoriatic patients which proves effectiveness with PASI 90,100 response that lasts over time. Although there was no early therapeutic intervention, brodalumab seems to reduce the likelihood of psoriatic arthritis given the response in nail and scalp psoriasis. It was shown that regardless of the duration of the disease, the response did not differ between groups by years of disease. Finally, switching from another anti-IL17 did not affect the

efficacy of brodalumab. Further studies, with a larger psoriatic patient population, may confirm these results, shedding new light in biologic treatments safety and efficacy.







## Plasma marker YKL-40 in psoriasis patients

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# **Introduction & Objectives:**

Psioriasis is a chronic, inflammatory skin condition characterized by hyperproliferation of keratinocytes and immune system dysregulation. Biomarkers play an essential role in understanding the pathogenesis, monitoring severity and assessing treatment responses. YKL-40 is a glycoprotein secreted by inflammatory cells and associated with tissue remodeling. Additionally, YKL-40 has been recognized as a potential marker of inflammation in various diseases, including rheumatoid arthritis, osteoarthritis, asthma, and chronic obstructive pulmonary disease, with this study specifically focusing on its role in psoriasis. The objective of this study is to evaluate the role of plasma YKL-40 levels in psoriasis patients, examining its correlation with disease severity and therapeutic interventions. This study aims to assess whether YKL-40 can serve as a reliable biomarker for psoriasis activity and its response to treatment.

#### **Materials & Methods:**

The authors searched the PubMed database for the effect of the plasma marker ykl-40 on the course of psoriasis; the search was as broad as possible from the inception of the database to December 2024. The analysis included 17 original studies conducted in accordance with PRISMA guidelines.

#### **Results:**

The analysis demonstrated that YKL-40 levels are significantly elevated in patients with psoriasis compared to control groups. A positive correlation was observed between YKL-40 levels and the severity of the disease, measured using the PASI index. Narrowband UVB phototherapy was shown to reduce both YKL-40 levels and PASI scores, indicating an improvement in disease severity. These findings highlight YKL-40 as a marker associated with

inflammation and disease activity in psoriasis.

**Conclusion:** 

Studies have shown that YKL-40 levels are significantly elevated in patients with psoriasis and correlate with disease severity as measured by the PASI index. Narrowband UVB phototherapy reduces both YKL-40 levels and the severity of psoriasis symptoms, suggesting the potential of YKL-40 as a useful diagnostic and prognostic marker. It may also serve as a potential therapeutic target in psoriasis treatment. Further research is needed to better understand its mechanisms of action and clinical applications.







# Comparative analysis of the real-life efficacy of interleukin-17 inhibitors in the treatment of moderate-to-severe psoriasis in the polish population

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## **Introduction & Objectives:**

Bimekizumab, secukinumab and ixekizumab are prominent biologics targeting IL-17 cytokines in psoriasis treatment. While secukinumab and ixekizumab focus on IL-17A inhibition, bimekizumab offers dual inhibition of IL-17A and IL-17F, potentially enhancing efficacy by addressing a broader inflammatory spectrum. Study evaluates the comparative efficacy, safety and tolerability of these agents in treating moderate-to-severe psoriasis in the Polish population. These findings aim to equip clinicians and researchers with critical insights, facilitating evidence-based decisions in optimizing plaque psoriasis management.

#### **Materials & Methods:**

Long-term, retrospective study included patients treated with IL-17 inhibitors (bimekizumab, secukinumab, ixekizumab) at a dermatology center in Poland in the years 2019–2024. Eligibility required PASI  $\geq$  10, BSA  $\geq$  10, DLQI  $\geq$  10 or involvement of special areas (scalp, face, genital area, hands, feet, nails) with inadequate response or contraindications to at least two systemic therapies. Exclusion criteria included prior IL-17 inhibitor use. Outcomes analysed were PASI, BSA, DLQI, safety and tolerability with adverse events recorded. Statistical analyses were conducted using Statistica 13.1PL software by StatSoft, Tulsa, USA without data imputation.

#### **Results:**

In total, there were 98 patients (67 male, 68,37%, mean age: 45.9 years (SD 13.26), mean BMI: 29.8 kg/m2 (SD 5.21), mean disease duration: 20.47 years (SD 11.37), 25 patients (25.5%) with concomitant psoriatic arthritis. Patients were divided into study groups based on applied treatment: 48 patients with bimekizumab, 20 patients with iksekizumab and 30 patients with sekukinumab. Bimekizumab achieved the highest Hedges' g value of 3.662, indicating the greatest clinical efficacy in PASI reduction. Secukinumab followed with a Hedges' g value of 2.813 and iksekizumab with a value of 1.986. An exponential function interpolation was developed to model the long-term PASI trajectory, providing a continuous representation of treatment outcomes. The function's intercept indicates proximity to PASI100 with bimekizumab demonstrating the highest efficacy (intercept = 0.289), followed by ixekizumab (1.45) and secukinumab (1.55).

#### **Conclusion:**

Bimekizumab demonstrates the highest efficacy in reducing PASI and BSA scores, both within the first month of treatment and throughout the full therapeutic cycle. Ixekizumab and secukinumab exhibit comparable and high efficacy in managing plaque psoriasis, though statistically lower than that of bimekizumab. Following failure of IL-23 inhibitor therapy, higher baseline PASI and BSA values with the first dose of bimekizumab result in greater clinical efficacy of the drug. Interleukin-17 inhibitors are characterized by a favourable safety profile in routine dermatological practice.

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## The impact of pruritus on sleep, mental health, and quality of life in psoriasis patients.

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**Introduction & Objectives:** Psoriasis affects 2-3% of the global population, and pruritus is one of the most distressing symptoms, affecting physical appearance, self-esteem, and psychosocial well-being. This study aimed to evaluate the impact of pruritus in psoriasis patients on mental health, quality of life, and sleep quality.

Materials & Methods: A cross-sectional, questionnaire-based study was conducted with 160 psoriasis patients in Thailand.\*\* Participants completed questionnaires evaluating the pruritus severity (Visual Analogue Scale), sleep quality (Modified Athens Insomnia Scale-Thai), mental health (Thai Hospital Anxiety and Depression Scale), and quality of life (Dermatology Life Quality Index). Correlations between pruritus severity and these factors were analyzed using linear and logistic regression models.

**Results:** Pruritus severity was significantly associated with sleep quality (linear regression slope = 0.50, 95% CI: 0.24–0.76, p < 0.001), anxiety (OR = 1.22, 95% CI: 1.08–1.39, p = 0.002), depression (OR = 1.21, 95% CI: 1.05–1.40, p = 0.01), reduced quality of life (OR = 1.33, 95% CI: 1.16–1.52, p < 0.001). Furthermore, higher psoriasis severity was significantly associated with pruritus severity (quantile regression slope = 3.46, 95% CI: 2.03–4.90, p < 0.001). However, no significant association was found between pruritus severity and disease duration.

**Conclusion:** Severe pruritus in psoriasis is correlated with sleep disturbances, impaired mental health and reduced quality of life. Therefore, it is crucial for physicians to prioritize pruritus management as part of a holistic approach to improve the overall quality of life for psoriasis patients.







# Effectiveness of Risankizumab in Canadian Patients with Psoriasis Participating in the VALUE Post-marketing Multicountry Observational Study

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**Introduction & Objectives:** Risankizumab (RZB), an optimized humanized IgG1 monoclonal antibody, inhibits IL-23 by binding its p19 subunit with high affinity and specificity and is approved for the treatment of moderate-to-severe plaque psoriasis, psoriatic arthritis, Crohn's disease, and ulcerative colitis. The VALUE post-marketing observational study is investigating the effectiveness of RZB per label in real world practice. Here we reported the effectiveness outcomes for Canadian patients who have completed Month 37.

Materials & Methods: VALUE (NCT03982394) is an ongoing global prospective observational cohort study that evaluates real-world durability of response, time to first treatment change, impact on quality of life, healthcare resource utilization and costs for RZB compared with other commonly used biologics (2:1 allocation ratio). Patients (≥18 years) with a confirmed diagnosis of psoriasis were treated using RZB or other biologics approved for psoriasis as prescribed by a physician per label and independently from study participation. Effectiveness was assessed with the Psoriasis Area and Severity Index (PASI), static Physician Global Assessment (sPGA), and various patient-reported outcomes measures including Dermatology Life Quality Index (DLQI) scores, and changes to treatment at baseline, Week 4, and every 12 weeks thereafter. Patients who switched to another biologic or discontinued the initiated biologic due to lack of effectiveness or intolerability were treated as treatment failures for subsequent visits. Descriptive statistics were summarized from an interim database lock on 07 December 2023; the Canadian subpopulation was not powered to show statistical significance.

**Results:** At cut-off, 457 Canadian patients were included in the analysis, with 314 and 143 patients receiving RZB and other biologics, respectively. At baseline, patient demographics and disease characteristics were mostly comparable; however, there was a higher proportion of men (187 [59.6%] vs 67 [46.9%]; P=0.0113) and fewer patients with a history of psoriatic arthritis (44 [14.12.1%] vs 45 [31.5%], P<0.0001) in the RZB group. At Month 37, the mean PASI (1.1 vs 2.3; P=0.0167) and sPGA scores (0.7 vs 1.2; P=0.0010) were statistically significantly lower in patients receiving RZB than in patients receiving other biologics (Table). Also, patients with a PASI score >10 was lower in patients receiving RZB (12.7% vs 29.3%; P= 0.0020). Similarly, the proportions of patients achieving a >90% improvement in PASI (PASI90; 72.8% vs 53.3%; P=0.0033), PASI75 (81.0% vs 64.0%; P=0.0048), PASI100 (59.5% vs 37.3%; P=0.0016), and a sPGA of clear (score 0; 60.8% vs 36.0%; P=0.0004) were significantly higher in patients receiving RZB. Finally, patients in the RZB group had a statistically significantly lower DLQI score at Month 37 (2.5 vs 4.5; P=0.0176) and more patients achieved a DLQI score of 0/1 (65.8%

vs 47.9%; 0.0166) than patients in the other biologic group. Due to the sample size limitation, propensity score matching results are not reported.

**Conclusion:** Canadian patients treated with RZB demonstrated durable reduction in psoriasis symptoms over 37 months, achieved significantly higher treatment targets and quality of life improvements compared to other biologics.

Table: Effectiveness Outcomes at Month 37 in Canadian Patients Receiving RZB Compared with Other Biologics Treatments

Endpoint	<b>RZB 150 mg</b>	Other Biologics	P-value <sup>a</sup>
	N=158	N=75	
PASI score, mean (SD)	1.1 (2.34)	2.3 (3.92)	0.0167
PASI >10, n (%)	20 (12.7)	22 (29.3)	0.0020
PASI75, n (%)	128 (81.0)	48 (64.0)	0.0048
PASI90, n (%)	115 (72.8)	40 (53.3)	0.0033
PASI100, n (%)	94 (59.5)	28 (37.3)	0.0016
sPGA score, mean (SD)	0.7 (1.05)	1.2 (1.21)	0.0010
sPGA score 0, n (%)	96 (60.8)	27 (36.0)	0.0004
sPGA score 0/1, n (%)	113 (71.5)	40 (53.3)	0.0063
DLQI score, mean (SD) [n]	2.5 (4.01) [146]	4.5 (6.58) [70]	0.0176
DLQI score 0/1, n (%) [n]	96 (65.8) [146]	34 (47.9) [71]	0.0166

DLQI, Dermatology Life Quality Index; PASI, Psoriasis Area Severity Index; PASI75/90/100, improvement of >75%/90%/100% in PASI score; RZB, risankizumad; sPGA, static Physician's Global Assessment Analysis performed on the interim analysis set consisting of all enrolled patients who were treated with RZB or other biologics including biosimilars at least once before Visit 14 (Month 37).

<sup>&</sup>lt;sup>a</sup> T-test for continuous endpoints and Chi-square test for categorical endpoints.







# The Impact of Statins on Disease Severity and Quality of Life in Patients with Psoriasis: A Systematic Review and Meta-Analysis

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## **Introduction & Objectives:**

Psoriasis, a chronic autoimmune condition, imposes significant burdens on patients' well-being. While corticosteroid medications are commonly used, their prolonged use presents risks. Statins, known for their immunoregulatory and anti-inflammatory properties, have emerged as potential alternatives. Previous reviews indicated that statins might improve psoriasis symptoms but showed inconsistent results and lacked meta-analyses that generated pooled effect estimates. Therefore, this study addresses this gap by providing a comprehensive overview of the impact of statins on psoriasis severity and quality of life (QoL) for patients with psoriasis.

### **Materials & Methods:**

A thorough search of four electronic databases (PubMed, Cochrane Central Register of Controlled Trials, Scopus, and Science Direct) was conducted for relevant studies published before April 2024.

# Results:

Seven studies involving 369 patients were included. This meta-analysis showed a statistically significant reduction in PASI scores at week 8 with statin treatment (MD = -1.96, 95% CI [-3.14, -0.77], p = 0.001). However, no statistically significant difference was found between statins and placebo at week 12 (MD = 0.19, 95% CI [-0.18, 0.55]). Additionally, DLQI scores indicated a significant improvement in quality of life with statins compared to placebo (MD = -3.16, 95% CI [-5.55, -0.77]).

### **Conclusion:**

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Statins can improve disease severity and quality of life in psoriasis patients, suggesting the potential benefits of statin therapy. However, further research is needed to determine the optimal treatment duration, address outcome heterogeneity, and explore additional benefits such as cholesterol and triglyceride reduction.







#### Herpes Zoster Reactivation in a Generalized Pustular Psoriasis Patient with Multiple Comorbidities

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## **Introduction & Objectives:**

Generalized pustular psoriasis (GPP) is a variant of psoriasis characterized by widespread sterile pustules. Risk factors include sudden discontinuation of systemic steroids, skin infections, hypocalcemia, and pregnancy. We present a case of a nursing mother with GPP, metabolic syndrome, and prolonged methylprednisolone use with herpes zoster (HZ) reactivation to increase our clinical acumen as a dermatologist.

#### **Materials & Methods:**

We conducted a case study of a patient managed in our department.

#### **Results:**

A 25-year-old, obese, female patient previously diagnosed with GPP, presented with painful blisters on an erythematous base that appeared on her left palm 7 days ago. It then appeared on her left arm and scapular regions in the span of 2 days. The blisters coalesced into larger blisters with worsening of pain. She was diagnosed with multidermatomal HZ. The patient still exhibited pustular lesions related to her GPP diagnosis. Her medical history stated prolonged use of methylprednisolone due to limited treatment options for pustular psoriasis in pregnancy in her previous medical facility, and later misused due to self-medication. She was then referred to our outpatient department in a tertiary hospital. She was also diagnosed with metabolic syndrome. She was on methylprednisolone for the last 7 months, with the highest dose at prednisone 60mg/day (0,85mg/kg/day). As she had presented into our clinic while still nursing, the aim was to slowly taper down systemic corticosteroids while planning to administer secukinumab. The patient was treated with oral acyclovir 800mg five times daily for 14 days, and steroids was tapered down from 40mg/day to 20mg/day. The blisters subsided after the tenth day of acyclovir and reduced prednisone dose. She eventually stopped lactation, and was treated with cyclosporine after overcoming HZ, while being screened and prepared for secukinumab injection.

## **Conclusion:**

Treating GPP is challenging due to the comorbidities involved. Pregnancy, lactation, and metabolic syndrome complicate the choice of drugs and disease course. The patient's immunity was suppressed due to prolonged methylprednisolone use, resulting in a HZ reactivation that, without careful examination, one might miss the diagnosis and regard it part of the clinical course of GPP. IL-36 inhibitors (spesolimab) was found to result in rapid and sustained remission of symptoms, unfortunately it is not available in Indonesia. IL-12 and IL-23 antagonists (ustekinumab) is available, but not covered by our national health insurance. Anti-IL-17 (secukinumab) is available and has been found effective for GPP, with several restrictions in our national health insurance. Studies did not detect a higher risk of HZ infections in psoriasis patients treated with IL-17 inhibitors when compared to other therapies. However, biologic treatments are not always readily accessible, thus making timely administration difficult.







## Erythroderma after COVID-19 infection in patient with psoriasis vulgaris: clinical case

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**Introduction & Objectives:** There are most common cutaneous manifestations, such as urticarial lesions, vesicular and maculopapular rashes, livedo reticularis, and erythematous violaceous and vesicular chilblain-like lesions during the COVID-19 pandemic. These symptoms may be both true signs of COVID-19 disease and complications of it.

Materials & Methods: An 80-year-old male with psoriatic erythroderma exacerbated after COVID-19 infection.

**Results:** An 80-year-old man with generalized eruptions all over the body admitted to the Department of Dermatology at the Republican Center of Dermatovenereology and Cosmetology in Tashkent, Uzbekistan due to 3-week history of generalized erythematous lesions and severe conjunctivitis. He had been suffering from mild psoriasis for 3 years and sometimes had been administered antihistamines and combined ointments. He had his gall bladder exscinded 4 years ago and had no remarkable sings of the disease. Before presenting to our clinic, the patient had COVID-19 infection confirmed with positive PCR test. Dexamethasone, ceftriaxone, and heparin were prescribed to be taken during the disease.

On examination, reddish-colored, infiltrated and cracked skin was covered with numerous off- yellow squamae. There was little bleeding on the skin folds. Yellow colored nails on the hands and feet were deformed. Sevier itch was noticed to compline.

Abnormal laboratory findings included significant increase in leukocytes ( $49.1 \times 109/I$ ) and lymphocytes (82.1 %); while, a decrease in hemoglobin (94 g/I) and thrombocytes ( $152 \times 109 /I$ ). In 3 days, the level of leukocytes and lymphocytes slightly reduced ( $25 \times 109/I$  and 78.3 %, respectively). C-reactive protein level was dramatically high at 22.1 mg/I; while, vitamin D level was in deficit. The patient's serological status for ss-DNA and ds-DNA, hepatitis B and C, and AIDS was negative.

A skin biopsy was taken: the hematoxylin and eosin sections showed hyperkeratosis, detachment of stratum corneum and thin stratum granulosum in some areas, parakeratosis, uneven acanthosis, spongiosis, papillomatosis, expanded vessels with limphohistiocytic infiltration around, and slightly swollen collagen fibers.

**Conclusion:** Prevalence of dermatological symptoms in patients with COVID-19 infection made all dermatologists register and study the new disease. So, dermatologists all over the world should collaborate to determine whether skin symptoms associated with SARS-CoV-2 infection are manifestations of COVID-19 itself or resemble conditions like FDE, erythroderma and etc.







## Study of Procalcitonin and C-Reactive Protein in Patients with Generalized Pustular Psoriasis

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**Introduction & Objectives:** Procalcitonin (PCT) is a peptide precursor of the hormone calcitonin, recognized as a marker of infection. It is also elevated in certain inflammatory conditions such as Still's disease, anaphylactic shock, Kawasaki disease, and others. Patients with generalized pustular psoriasis (GPP) exhibit multiple sterile pustules distributed across the body, as well as sepsis-like systemic symptoms, including high fever, leukocytosis, and elevated levels of C-reactive protein (CRP).

To study the levels of procalcitonin and C-reactive protein in patients with generalized pustular psoriasis.

**Materials & Methods:** We observed 24 patients aged 27 to 48 years with GPP, including 10 men (42%) and 14 women (58%). Disease duration was under 1 year in 12 patients (50%), 1 to 5 years in 9 patients (37%), and over 5 years in 3 patients (13%). All patients reported systemic symptoms such as fever, weakness, bone pain, and fatigue. A control group of 11 individuals of similar age and gender was used for comparison. PCT and CRP levels were measured using ELISA.

**Results:** The average levels of procalcitonin and CRP were  $0.35 \pm 0.04$  ng/mL (normal <0.1 ng/mL) and  $16.5 \pm 0.5$  ng/mL (normal <8 ng/mL), respectively, with a correlation coefficient of r=0.2.

In patients with disease duration under 1 year, PCT and CRP levels were 0.23  $\pm$  0.04 ng/mL and 15.3  $\pm$  0.7 ng/mL, r=-0.03.

In patients with disease duration from 1 to 5 years, PCT and CRP levels were 0.5  $\pm$  0.02 ng/mL and 17.4  $\pm$  0.7 ng/mL, r=-0.04.

In patients with disease duration over 5 years, PCT and CRP levels were 0.6  $\pm$  0.03 ng/mL and 19.3  $\pm$  0.9 ng/mL, r=-0.2.

**Conclusion:** We identified a weak positive correlation between PCR and CRP levels in the overall sample. While PCR is a marker of bacterial inflammation, its elevation in patients with autoimmune diseases may be minor. In this sample, a weak negative correlation was observed in groups when considering disease duration. Thus, PCR does not appear to be a reliable indicator of inflammatory response in patients with GPP based on our data.







### On the state of local immunity and tumor necrosis factor in patients with psoriasis.

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**Introduction & Objectives:** In the pathogenesis and clinical course of psoriasis, close attention is paid to immunological, metabolic, hormonal disorders, as well as genetic factors that lead to disruption of the proliferation and apoptosis of keratinocytes against the background of increased mitotic activity of basal layer cells - as a consequence of incomplete keratinization of the epidermis.

**Materials & Methods:** 64 patients with psoriasis aged 12 to 67 years were examined. Among them, there were 31 females and 33 males. The average age of patients was 39.8+99.1. The duration of the disease ranged from 1 to 37 years. All patients underwent clinical (Fotofinder dermatoscopy), immunological and statistical research methods.

**Results:** The results of the ELISA study of the proinflammatory cytokine TNF-alpha in patients with psoriasis revealed an increase in the level by 4.4 times and secretory IgA by 2.1 times compared with the indicators of control individuals. (P <0.05). Correlation analysis of the indicators of secretory immunoglobulin A and proinflammatory cytokine TNF-alpha revealed an average significance of the inverse correlation with secretory IgA - r = -0.3 (P <0.05). Whereas with the level of double-stranded AAT to IgG DS - r = -0.46 and DNA SS - r = -0.5 had an inverse correlation and were statistically significant. (P<0.05). Such a picture was noted with the TNF-alpha indicators with AAT as two - DS - r = -0.4 and to single-stranded DNA - SS - r = -0.36. The obtained data were statistically significant. (P<0.05)

**Conclusion:** In our opinion, an increase in the level of secretory IgA is reflected in the powerful stimulating effect of TNF-a, contributes to the maintenance of aseptic inflammation in the epidermis.







# 2024 BADBIR update: ixekizumab 3-year drug survival in biologic-naïve versus biologic-experienced psoriasis patients

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#### Introduction

The prospective British Association of Dermatologists Biologics and Immunomodulators Register (BADBIR) collects real-world outcomes data on patients with psoriasis in the UK and Ireland receiving biologic and non-biologic immunomodulators, including ixekizumab, an interleukin-17A antagonist. Ixekizumab is approved for the treatment of moderate-to-severe plaque psoriasis in adults and children aged ≥6 years with a bodyweight ≥25kg.1 Baseline characteristics and 12/24 months drug survival for psoriasis patients treated with ixekizumab enrolled in BARBIR registry have been previously described2.

## **Objective**

To provide 36-month follow-up data of biologic-naïve vs biologic-experienced adult patients with psoriasis receiving ixekizumab treatment in real-world settings, reporting patient baseline demographics, drug survival and effectiveness.

### **Materials and Methods**

Patients enrolled in BADBIR who initiated ixekizumab on-label for the treatment of moderate-to-severe psoriasis were included (up to the cut-off date: 1st August 2024) and stratified by biologic status (naïve vs experienced). Ixekizumab survival at 36 months was evaluated in patients with any follow-up data available; patients with 6- and 12-month Psoriasis Area and Severity Index (PASI) and Dermatology Life Quality Index (DLQI) data available were analysed.

## **Results**

A total of 1,245 patients were included in this ixekizumab cohort; 214 (17%) patients were naïve to biologics at the time of starting ixekizumab and 1,031 (83%) were biologic-experienced patients (**Table 1**).2 Among the bio-experienced patients, 80.6% (831/1,031) were refractory to  $\leq$ 3 prior biologics, with 19.4% (200/1031) bio-experienced patients receiving ixekizumab as fifth-line treatment. After 12 months of ixekizumab treatment, 94% and 87% of biologic-naïve patients achieved PASI  $\leq$ 4 and PASI  $\leq$ 2, respectively; for biologic-experienced patients these values were 67% and 55% for PASI  $\leq$ 4 and PASI  $\leq$ 2, respectively. In addition, 75% of biologic-naïve patients achieved DLQI 0/1 after 12 months, compared with 49% for biologic experienced patients. At 36 months, mean ixekizumab drug survival was 77% (95% confidence interval 69%, 83%) in biologic-naïve patients, compared with 61% (55%, 67%) for ixekizumab as a second-line biologic, 55% (48%, 62%) for ixekizumab as a third-line biologic and 49% (43%, 54%) for those receiving ixekizumab as a fourth- or fifth-line biologic. Kaplan-Meier analysis of ixekizumab survival by line of biologic treatment is shown in **Figure 1**.

## **Conclusions**

Data from BADBIR show the effectiveness and survival of ixekizumab in the real-world setting in the UK and Ireland in both biologic-experienced and biologic-naïve patients receiving ixekizumab for the treatment of moderate-to-severe psoriasis. This typically included patients with long-standing disease who were refractory to multiple lines of prior biologic treatment. These data suggest there may be greater effectiveness and drug survival in biologic-naïve patients than in

biologic-experienced patients, drug survival up to 3 years among the biologic experienced group is in keeping with previous publications (which described ixekizumab drug survival up to 2 years).

## References

- 1. Ixekizumab summary of product characteristics. https://www.ema.europa.eu/en/documents/productinformation/taltz-epar-product-information\_en.pdf.
- 2. Yiu ZZN, et al. JAMA Dermatol 2022;158(10):1131-1141

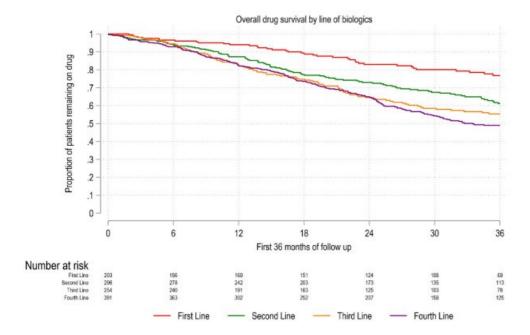
Table 1. Baseline demograp\hics and clinical characteristics in biologic-naïve and experienced patients with moderate-to-severe psoriasis#

	Biologic naïve	Biologic experienced	
8	(n=214)	(n=1031)	
Age, years, mean (SD)	46.3 (13.9)	44.8 (12.8)	
Female, n (%)	97 (45.3)	456 (44.2)	
Age at PsO onset, years,			
mean (SD)	27.1 (14.7)***	24.3 (13.7)	
Disease duration, years,			
mean (SD)	19.2 (11.4)	20.5 (12.6)	
Follow-up time, years, mean			
(SD)	2.7 (1.8)**	2.3 (1.6)	
Weight ≤100 kg, n (%)	126 (58.9)	350 (33.9)	
Weight >100 kg n (%)	73 (34.1)	204 (19.8)	
Weight - missing	15 (7.0)	477 (46.3)	
BMI, kg/m <sup>2</sup> , mean (SD)	32.3 (8.2)	32.9 (7.9)	
Baseline PASI, mean (SD)	16.5 (7.8)*	11.5 (8.3)	
Baseline DLQI, mean (SD)	18.7 (7.2)*	13.7 (8.5)	
Number of comorbidities,			
mean (SD)*	1.6 (1.5)*	2.0 (1.6)	
Psoriatic arthritis, n (%)	49 (22.9)*	381 (37.0)	
Previous treatments			
Systemic treatments			
Methotrexate	163 (76.2)	799 (77.5)	
Azathioprine	0	2 (0.2)	
Acitretin	70 (32.7)***	428 (41.5)	
Mycophenolate mofetil	2 (0.9)	18 (1.8)	
Ciclosporin	106 (49.5)***	596 (57.8)	
Oral retinoids	0	6 (0.6)	
Hydroxycarbamide	4 (1.9)***	51 (5.0)	
Fumaric acid esters	10 (4.7)*	181 (17.6)	
PUVA	3 (1.4)	17 (1.7)	
Small molecules			
Apremilast	28 (13.1)**	67 (6.5)	
Dimethyl fumarate	3 (1.4) enced patients, #A total of 101/12	8 (0.8) 45 patients were excluded from survival	

Fig. 10 days.

BMI, Body Mass Index; DLQI, Disability Life Quality Index; PASI, Psoriasis Area and Severity Index; PsA, psoriatic arthritis; PsO, psoriasis; SD, standard deviation

Figure 1. Kaplan-Meier analysis of overall ixekizumab survival by biologic experience









## Calcipotriol/betamethasone cream revolutionizes scalp psoriasis treatment: insights from a prospective study

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**Introduction & Objectives:** Scalp psoriasis represents one of the most prevalent forms of this chronic inflammatory disease, significantly impacting both skin health and patients' quality of life. The condition also imposes substantial social and psychological stigma due to its high visibility. Although topical therapies are considered the first-line treatment, they encounter notable challenges, including difficulties in achieving uniform application due to hair coverage and low patient adherence associated with sticky or greasy formulations. For all these reasons, scalp psoriasis is designated as a challenging treatment area due to its unique characteristics.\*\* We conducted a study to assess the therapeutic efficacy of calcipotriol/betamethasone (Cal/BDP) cream in treating scalp psoriasis.

**Materials & Methods:** A prospective study was conducted involving 11 patients diagnosed with scalp psoriasis from a tertiary care hospital. The study evaluated the extent of scalp involvement and utilized several severity assessment tools, including the Scalp Psoriasis Severity Index (SPSI), the Scalp-specific Physician's Global Assessment (ssPGA), the Visual Analog Scale for pruritus (VAS pruritus), and clinical parameters such as erythema, induration, and scaling. These assessments were conducted at baseline (week 0) and after an 8-week treatment period with a Cal/BDP cream formulation (50 mcg/g and 0.5 mg/g, respectively) applied once daily.

**Results:** The study included 11 participants, of whom 54.5% were male and 45.5% female, with a mean age of 47 years (range: 19–74 years). The median (Q1-Q3) hair covered percentage of the scalp in the patients was 100% (80-100%), which could pose a challenge for topical treatments.

At baseline, the median (Q1-Q3) percentage of scalp psoriasis involvement was 20% (10-60). Following 8 weeks of treatment, this was reduced to 2% (0-10).

The SPSI demonstrated significant improvement, starting with an initial median (Q1–Q3) score of 100 (50–180), indicating moderate psoriasis, and decreasing by 94.47% to a final median (Q1–Q3) score of 4 (0–10), categorizing most patients into lower severity levels.

After 8 weeks of treatment, moderate-to-severe erythema, induration, and scaling were reduced from 72.7%, 54.5%, and 81.9% to 0%, respectively. At the end of the study, 54.5% of patients had no erythema, 63.6% no induration, and 36.4% no scaling, while the remainder exhibited only mild symptoms. According to the ssPGA scale, 72.8% of patients presented with moderate-to-severe psoriasis at baseline. By the end of treatment, 54.5% of patients were classified as "almost no psoriasis," and 36.4% as "no psoriasis."

Pruritus, a primary symptom of scalp psoriasis, decreased by 82%, as indicated by a reduction in the mean VAS pruritus score from 7.9 to 1.36 after 8 weeks of therapy. All observed results were statistically significant (p < 0.05).

Furthermore, 63.6% of the patients had not received prior treatment for their condition, underscoring the reliability of the therapeutic outcomes observed with Cal/BDP cream.

**Conclusion:** The findings of this study demonstrate that Cal/BDP cream is highly effective in reducing the extent and severity of scalp psoriasis. The treatment achieved significant improvements in disease burden, symptom severity, and patient quality of life.

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# Bimekizumab for the treatment of moderate-to-severe psoriasis: Real-world data from the Czech Republic BIOREP Registry

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**Introduction & Objectives:** Bimekizumab is a humanized monoclonal IgG1 antibody that functions as a dual inhibitor of IL-17A and IL-17F by binding to an amino acid region shared by both proteins. Data suggest that neutralizing both IL-17A and IL-17F may be more effective than targeting IL-17A alone. Bimekizumab has demonstrated high levels of efficacy and a favorable safety profile in phase III trials for the treatment of psoriasis, showing clinical superiority over adalimumab, ustekinumab, and secukinumab in direct comparative studies. This study aimed to evaluate bimekizumab treatment in a real-world setting by analyzing data from the Czech Republic BIOREP Registry.

**Materials & Methods:** BIOREP is a national registry of patients with inflammatory skin diseases (psoriasis, hidradenitis suppurativa, and atopic dermatitis) treated with targeted therapy in the Czech Republic. Established in 2005, the registry monitors the long-term efficacy and safety of targeted treatments for psoriasis. We analyzed data from patients receiving bimekizumab therapy up to November 2024.

**Results:** The study included 190 patients with moderate-to-severe psoriasis on bimekizumab therapy. The majority of patients were male (58.9%), and the mean time from diagnosis to the initiation of bimekizumab therapy was 21.8 years. Psoriatic arthritis was present in 36.3% of patients.

Before starting bimekizumab, patients most commonly received methotrexate (83.2%) and phototherapy (78.9%). Only 41.6% of patients were biologic-naïve, while 58.4% had prior biologic treatment: 14.7% switched from anti-TNF therapies, 1.6% from anti-IL-12/23 therapies, 18.4% from anti-IL-23p19 therapies, and 23.7% from IL-17 inhibitors.

The mean PASI score at baseline was 16.2 (SD  $\pm$  8.9), which decreased to 0.4, 0.3, and 0.8 after 16, 24, and 52 weeks, respectively. Similarly, DLQI scores decreased from 14.6 at baseline to 0.9, 0.6, and 0.7 at the same time points. At 16, 24, and 52 weeks of treatment, the proportions of patients achieving PASI 75, 90, and 100 were as follows: PASI 75: 98.7%, 97.4%, and 97.1%, respectively. PASI 90: 89.3%, 92.2%, and 85.3%, respectively and PASI 100: 72.5%, 80.2%, and 70.6%, respectively. PASI outcomes were further stratified by previous lines of treatment, BMI (<25 and  $\geq$ 25), disease duration ( $\leq$ 5 years and >5 years), age (<60 years and  $\geq$ 60 years), gender, and baseline PASI (<15 and  $\geq$ 15).

Bimekizumab therapy was discontinued in 4.2% of cases due to loss of effectiveness (2.6%) or adverse events (1.6%). Adverse events were reported in 13.7% of patients, with oral candidiasis being the most common (8.9%). No new safety concerns were identified.

The predicted drug survival probability at 52 weeks of treatment was 0.96 (95% CI: 0.93–1.00). No differences in survival probability were observed between biologic-naïve and previously treated patients.

**Conclusion:** This real-world analysis demonstrated that patients initiating bimekizumab therapy had severe disease with a significant impact on quality of life at baseline. The findings highlight high rates of disease clearance and substantial improvement in quality of life in patients with psoriasis receiving bimekizumab. This analysis fills the gap in real-world evidence on the efficacy, safety, and survival probability of bimekizumab treatment in clinical practice.







Scalp-PGA success, patient and clinician satisfaction with calcipotriol and betamethasone dipropionate cream with PAD technology (CAL/BDP PAD cream) among patients with mild-to-moderate scalp psoriasis in real-world settings in Europe. Final analysis of PRO-SCALP study

José Luis López Estebaranz<sup>1</sup>, Andreas Pinter<sup>2</sup>, Anthony Bewley\*<sup>3</sup>, Jordi Galván<sup>4</sup>, Siva Narayanan<sup>5</sup>, Volker Koscielny<sup>4</sup>, Ismail Kasujee<sup>4</sup>

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- <sup>4</sup>Almirall SA, Barcelona, Spain
- <sup>5</sup>Avant Health LLC, Bethesda, United States

## **Introduction & Objectives:**

In a phase 3 trial, the fixed-dose combination of CAL/BDP PAD cream demonstrated a high efficacy in patients with scalp psoriasis [1], but no data of this new formulation is available in real-world settings. Objective is to evaluate scalp-PGA success, patient and clinician satisfaction with CAL/BDP PAD cream among patients with mild-to-moderate scalp psoriasis in real-world settings in Europe.

## **Materials & Methods:**

This prospective cohort study (PRO-SCALP) was conducted in adults with mild-to-moderate scalp psoriasis newly initiated on CAL/BDP PAD cream as part of usual care in Germany, Spain and the United Kingdom. Patients/clinicians completed surveys at baseline and week-8 (w8). Clinicians assessed treatment response using scalp-PGA (scale: 0:clear, 1:almost clear, 2:mild, 3:moderate and 4:severe). Scalp-PGA success was defined as PGA score of 0/1 and with >=2-point improvement from baseline at w8. Patients reported their satisfaction with CAL/BDP PAD cream using a 9-item validated TSQM-9 questionnaire; 3 questions each related to treatment effectiveness, convenience of use, and global treatment satisfaction; each domain score range was 0 (least satisfaction) to 100 (most satisfaction). Clinicians reported their satisfaction with CAL/BDP PAD cream using a questionnaire adapted from TSQM-9 questionnaire, with identical domains and scoring methodology. Patient self-reported adherence to CAL/BDP PAD cream was measured using visual analogue scale (VAS; score:0-100). Outcomes at w8 were analysed, overall and stratified by low-adherence-group (VAS<80) and high-adherence-group (VAS=80-100).

# Results:

Final analyses included 253 patients, and 250 patients had scalp-PGA data. At w8, 59.9% and 40.1% of patients reported high (VAS:80-100) and low (VAS<80) adherence, respectively; majority (68.4%) had scalp-PGA success. Mean patient treatment satisfaction scores were - effectiveness: 73.56, convenience of use: 72.07, global satisfaction: 75.97. Mean patient satisfaction scores were consistently higher among high-adherence group - effectiveness: VAS=80-100: 74.47 vs. VAS<80: 72.11; convenience of use: VAS=80-100: 74.94 vs. VAS<80: 67.66 (p=0.0019); global satisfaction: VAS=80-100: 78.33 vs. VAS<80: 72.42 (p=0.0166). Mean clinician satisfaction scores were - effectiveness: 83.64, convenience of use: 79.74, global satisfaction: 84.12. Mean clinician satisfaction scores were consistently higher among high-adherence group - effectiveness: VAS=80-100: 85.42 vs. VAS<80: 81.00; convenience of use: VAS=80-100: 81.62 vs. VAS<80: 76.92; global satisfaction: VAS=80-100: 84.81 vs. VAS<80: 83.07.

## **Conclusion:**

In real-world settings in Europe, majority of patients with mild-to-moderate scalp psoriasis using CAL/BDP PAD cream achieved scalp-PGA success, and reported high treatment adherence, and patients and their treating clinicians reported high satisfaction with CAL/BDP PAD cream treatment.

[1] Dermatol Ther (Heidelb) (2023) 13:2153-2169.







Drug survival, effectiveness, and safety of risankizumab for moderate-to-severe psoriasis for up to 4 years.

Luca Mastorino<sup>1</sup>, Paolo Dapavo<sup>1</sup>, Pietro Quaglino<sup>1</sup>, Simone Ribero<sup>1</sup>

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## **Introduction & Objectives:**

De-escalation strategies of biologics in psoriasis treatment are widespread in clinical practice. Dose spacing (D-S) consists of de-escalating the time range between biological drug injections.

#### **Materials & Methods:**

Major objectives were: to describe trends in mean PASI, PASI100,90, and <=1 from baseline to 12 months after D-S, and drug survival analysis of dose-spaced regimen, and concurrently describe phenotypic characteristics related to the selection of patients candidate for therapeutic D-S.

#### **Results:**

Among more than 1500 psoriatic patients treated with IL-23 and IL-17 inhibitors 234 underwent D-S. They presented with lower mean baseline Body Mass Index (BMI) (p=0.011) and PASI (Psoriasis Area Severity Index) (p=0.044) and were more frequently bio-experienced (p=0.033).

After 12 months from dose-spacing 93%, 97%, and 97% of observed patients achieved PASI 100, 90, and ≤1.Nineteen patients loss PASI<=1 during the first years of D-S.

There were no significant differences in mean PASI between D-S and subsequent time points. The D-S survival was 75.8% at 1 year, with 25 patients returning to standard regimen mainly due to loss of response (22).

## **Conclusion:**

Therapeutic modulation, such as D-S, is an effective strategy in most psoriasis patients showing a clear or almost clear response of the skin, maintained over time.







Dose spacing strategy in the treatment of moderate-to-severe psoriasis with IL-23 and IL-17 inhibitors: a real life experience.

Luca Mastorino<sup>1</sup>, Paolo Dapavo<sup>1</sup>, Michela Ortoncelli<sup>1</sup>, Pietro Quaglino<sup>1</sup>, Simone Ribero<sup>1</sup>

<sup>1</sup>University of Turin, medical sciences, Torino

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Therapeutic modulation, such as D-S, is an effective strategy in most psoriasis patients showing a clear or almost clear response of the skin, maintained over time.







Enthesitis clinical phenotype of psoriatic arthritis: association with skin/nail psoriasis severity, arthritis activity and comorbidity

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**Introduction & Objectives:** Enthesitis is an important clinical feature of psoriatic arthritis (PsA) which has significant impact on PsA outcomes and choice of treatment. The aim of the study was to investigate the clinical characteristics associated with enthesitis in PsA patients in real clinical practice.

Materials & Methods: 603 pts (M/F=278/326) with PsA according to CASPAR criteria were examined. Mean age  $46.6\pm12.5^*$  years, PsA duration  $9.7\pm7.1$  yrs, psoriasis duration  $20.45\pm13.0$  yrs. Median (Me) DAPSA 25.5 [15.2; 41.8], body mass index (BMI) 27.5 [24.3; 31.2]. At baseline PsA activity by tender/swelling joint count (TJC)/68, (SJC)/66, enthesitis by LEI and plantar fascia, BSA (%), PASI, HAQ, DAPSA were evaluated. BSA>10% - indicate high psoriasis activity, DAPSA>28 indicate high PsA activity. The patients were split into two groups: with and without enthesitis. The one-factor model of logistic regression was used to identify a group of features that are associated with presence of enthesitis. Me [Q25; Q75], Pearson- $\chi$ 2 tests, Manna-Whitney tests, ORs with 95% CI were performed. All p<0.05, were considered to indicate statistical significance.

**Results:** Enthesitis was found in 295 out of 603 pts (49%). Comparative analysis in both groups with and without enthesitis and one-factor model of logistic regression showed the following features at baseline were associated with enthesitis: BSA>10% (p=0.001), nail psoriasis (p=0.003), TJC>5 (p=0.001), SJC>3 (p=0.001), dactylitis (p=0.001), high disease activity by DAPSA (p=0.001), HAQ $\geq$ 0.5 (p=0.001), CRP>10 mg/l (p=0.018), BMI>30 kg/m2 (p=0.02). Pts with enthesitis had significantly more often depression (p=0.026), metabolic syndrome (p=0.047), fatty hepatosis (p=0.017), OR analysis with CI 95% for all parameters are shown on Figure 1, 2.

**Conclusion:** In real clinical practice enthesitis occurs in half of PsA patients. Enthesitis are associated with more severe skin and nail psoriasis, higher PsA activity, functional impairment, depression, fatty hepatosis and metabolic comorbidity. This should be considered for personalized therapy.

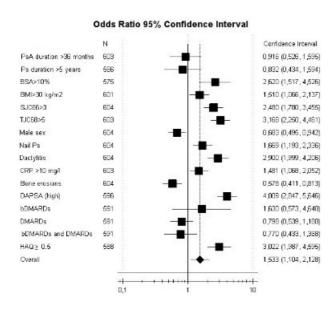


Figure 1. Clinical characteristics associated with enthesitis in PsA patients.

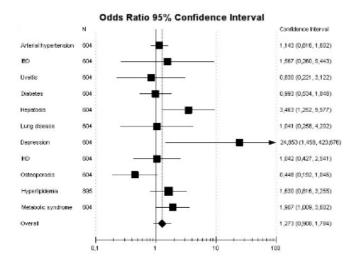


Figure 2. Comorbidity associated with enthesitis in PsA patients.







# Paradoxical Psoriasis Triggered by Secukinumab in an Ankylosing Spondylitis Patient with Submandibular Eczema: A Case Report

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## **Introduction & Objectives:**

Psoriasis is a chronic, immune-mediated inflammatory skin condition characterized by the development of multiple scaly, thickened patches. Inverse psoriasis, a form of psoriasis, is localized in skin folds and genital areas. Due to the moist nature of these areas, diagnosis can be challenging, especially since inverse psoriasis often shares clinical features with other skin conditions, such as intertrigo, fungal or bacterial infections, and lichen planus. Inverse psoriasis typically presents as well-defined erythematous plaques with a smooth, shiny surface, lacking the silvery scales seen in typical psoriasis.

In recent years, the use of biological drugs for treating chronic inflammatory diseases has increased significantly. While safety studies have largely focused on the risks of infections, cancer development, demyelinating diseases, local reactions at injection sites, and potential immunogenicity, research has also shown that these drugs can have diverse effects on the skin. Notably, biologicals can trigger the onset of psoriatic lesions or exacerbate pre-existing ones - a phenomenon known as paradoxical psoriasis.

This case report aims to highlight the onset of inverse psoriasis in a patient with ankylosing spondylitis who has been undergoing chronic treatment with secukinumab, an IL-17A inhibitor, for his condition.

#### **Materials & Methods:**

We present a 68-year-old male with ankylosing spondylitis who was treated with secukinumab and had a history of severe restrictive lung disease. He sought consultation at the Dermatovenerology Department for an erythematous-edematous plaque with serohematic crusts at the submandibular level. Additionally, well-demarcated erythematous plaques with a shiny surface and regular erythematous outline were observed in the abdominal folds and bilateral armpits. While the patient was initially diagnosed with acute submandibular eczema, a biopsy from one of the abdominal folds was performed to investigate the plaques in the folds and confirm the diagnosis.

## Results:

Histopathological examination revealed focal parakeratosis and regular acanthosis in the epidermis. Exocytosis and a lymphoplasmacytic infiltrate in the superficial dermis were also observed. PAS staining did not show fungal colonies. These morphological findings confirmed the diagnosis of psoriasis vulgaris.

#### **Conclusion:**

In conclusion, it is crucial to perform a thorough clinical examination in patients undergoing biological therapy for immunological, rheumatological, or oncological diseases. Early identification of drug-related skin conditions can significantly impact patient care and management.







# Patient-Centered Preferences for Biologic Therapies in Moderate to Severe Psoriasis in Vietnam: A Discrete Choice Experiment

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## **Introduction & Objectives:**

Psoriasis is a chronic autoimmune disease that significantly impairs patients' quality of life. With the growing availability of biologic drugs—each varying in efficacy, safety, dosing, and cost—treatment decisions have become increasingly complex. Evidence suggests that aligning physician recommendations with patient preferences enhances satisfaction, adherence, and outcomes.

#### **Materials & Methods:**

A study conducted from March to July 2024 surveyed 302 Vietnamese patients with moderate to severe psoriasis to assess preferences for biologic therapies. Using a discrete choice experiment (DCE), participants evaluated six treatment attributes: short-term efficacy, long-term efficacy, sustained efficacy after drug withdrawal, frequency of administration, copayment, and risk of serious infection. Preference data were analyzed using conditional logit models.

#### **Results:**

Analysis revealed that treatment cost (relative importance [RI]: 31.4%) and long-term efficacy (RI: 25.3%) were the most critical factors influencing patient decisions, while sustained efficacy after withdrawal (RI: 8.1%) and early onset of efficacy (RI: 2.5%) were less impactful. Long-term efficacy and cost consistently ranked highest across all patient subgroups, with variations depending on demographic and clinical characteristics.

## **Conclusion:**

The cost of treatment and long-term effectiveness are the most important attributes for patients with moderate to severe psoriasis in Vietnam. These findings provide valuable insights into the perspectives of Vietnamese patients regarding the selection of biologic therapies. Incorporating these preferences into shared decision-making between physicians and patients may enhance patient satisfaction and improve treatment outcomes.







## Managing psoriasis flares: a topical perspective for Rheumatologists

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# **Introduction & Objectives:**

Waiting times in Dermatology and Primary Care were greatly disrupted by the COVID-19 pandemic. As a result, many of our patients with psoriatic arthritis (PsA) struggled to access timely treatment for psoriasis flares, leading to an increased burden on Rheumatology clinics. To address this, we developed a succinct prescribing guide to enhance clinicians' confidence in managing psoriasis flares with topical treatments. Psoriasis occurs in 66-72% of patients with PsA and causes a significant impact on quality of life.1 Topical treatments are first-line in the management of psoriasis, and are both safe and effective.2

This study aimed to evaluate the impact of this prescribing guide on the confidence of Rheumatology clinicians and clinical practices for managing psoriasis, particularly in improving the utilisation of topical treatments.

#### **Materials & Methods:**

A questionnaire was distributed nationally to Rheumatology clinicians with prescribing responsibilities. Clinicians reported their confidence in prescribing topical treatments for various psoriasis subtypes (extensor, flexural, scalp, facial, and genital), along with their typical management strategies (e.g., referral, topical prescriptions). Confidence levels were measured on a 10-point scale. Participants were resurveyed three months after the introduction of a topical prescribing guide which was developed with a consultant dermatologist. Results were analysed using Mann-Whitney U tests to compare pre- and post-intervention scores.

## **Results:**

A total of 32 clinicians participated pre-intervention, whilst 27 responded post-intervention. Of the latter, respondents were excluded who had not received the guide (n=4). Pre-intervention, 81.3% (26) of clinicians reported referring patients with psoriasis flares to dermatology, while only 28.1% (9) prescribed topical treatments. Post-intervention, self-reported use of topical prescriptions increased to 60.9% (14), and referrals decreased to 43.5% (10). Confidence scores showed significant improvement across all subtypes (p < 0.00001). The median overall confidence score increased from 3 to 8. Subtype-specific median scores rose as follows: extensor (3 to 8), flexural (2 to 7), scalp (3 to 6), facial (1 to 4), and genital (1 to 2). The prescribing guide was widely utilised, with 78.3% (18) of respondents reporting regular use, and 82.6% (19) agreeing or strongly agreeing that they found it useful.

#### **Conclusion:**

The introduction of a prescribing guide significantly improved clinicians' confidence and practice in managing psoriasis flares, reducing reliance on dermatology referrals. This highlights the potential of targeted educational tools to enhance multidisciplinary care. Further efforts should focus on refining resources and assessing long-term outcomes for patient care.

#### **References:**

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## The effect of comorbid diseases on the prognosis of treatment effectiveness in psoriatic arthritis patients

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# **Introduction & Objectives:**

Psoriatic arthritis (PsA) is characterized by a wide variety of manifestations and comorbidities. Comorbid conditions can reduce the effectiveness of therapy.

## **Objectives:**

To develop a method for predicting the effectiveness of PsA therapy.

#### **Materials & Methods:**

377 PsA patients (pts) were examined: (M/F 185 /192). Pts' age 47.6±12.4 yrs, psoriasis (PsO) duration 206.8±156.3 mon, PsA duration – 84.8±84.6 mon. Pts underwent standard clinical examination, the analysis included detection of comorbidities according ICD-10.\*\* Pts were evaluated for achieving minimal disease activity (MDA). Data of visit 2 (6 months of treatment) were analysed. Multi-dimensional step-by-step discriminant analysis was used to identify a group of features influencing MDA achievement.

#### **Results:**

At 6 months of treatment Tender Joint Count (TJC68) was 3,0 [0.0; 8.0], Swollen Joint Count (SJC66) - 1,0 [0.0; 5.0], CRP - 4,3 (Min 0.0, Max 90.6) mg/l, LEI - 0,0 (Min 0, Max 6), BMI - 27,6±5,2 kg/m2 . BMI<30 kg/m2 had 273 (72%) pts, 30≤BMI<35 kg/m2 - 75 (19.9%) pts, BMI≥35 kg/m2 - 29 (7.7%) pts. BSA≤3% was found in 264 of 377 (70%) pts, 3% <BSA≤10% - in 96 (25.5%) pts, BSA>10% - in 17 (4.5%) pts. 82 (21.8%) pts met the MDA criteria. Comorbid diseases were found in 152 (40%) pts.

The type of therapy depending on the MDA achievement is shown in Table 1. The proportion of patients who did not receive bDMARDs was significantly higher in the group of patients who did not achieve MDA.

Table 1. Characteristics of therapy in PsA pts depending on MDA achievement after 6 months of treatment (n=361)

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Therapy	MDA achieved n=78	MDA not achieved n=283	р
No treatment	0	1/0.35%	0.79
Glucocorticoids	1/1.28%	1/0.35%	0.33
NSAIDs+ Glucocorticoids	0	1/0.35%	0.79
DMARDs	Methotrexate (n=138)	22/28.2%	116/40.9%
	DMARDs	6/7.7%	32/11.3%
ts DMARDs	Tofacitinib(n=29)	5/6.4%	24/8.5%
Did not receive bDMARDs (n=209)	34/43.6%	175/61.9%	0.004
bDMARDs	bDMARDs +MTX (n=78)	24/30.8%	54/19.1%
	bDMARDs+other DMARDs (n=18)	3/3.9%	15/5.3%
	TNF inhibitors (n=102)	28/35.9%	74/26.1%
	IL-17 inhibitors (n=14)	3/3.8%	11/3.9%
	IL-12/23 inhibitors (n=35)	12/15.4%	23/8.1%

The  $\chi 2$  Pearson test was used to compare the groups.

Multivariate analysis was performed and the following parameters were revealed that negatively correlate with MDA achievement – CRP (p=0.0001), LEI (p=0.0001), arterial hypertension (AH) (p=0.08), BSA (p=0.063), BMI (p=0.289).

A discriminant rule was obtained that makes it possible to predict the possibility of MDA achievement  $0.046x(CRP, mg/l) + 0.470xLEI + 0.527x(AH) + 0.451x(BSA) + 0.237x(BMI) \le 1.184$ .

This formula includes the values of CRP, LEI, AH (no AH – 0 points, there AH – 1 point), BSA (BSA $\leq$ 3% - 1 point, 3% <BSA $\leq$ 10% - 2 points, BSA>10% - 3 points), BMI (BMI<30 kg/m2 – 0, 30 $\leq$ BMI<35 kg/m2 – 1 point, BMI $\geq$ 35 kg/m2 – 2 points). When the expression value is  $\leq$ 1.184, the achievement of MDA in PsA pts is predicted.

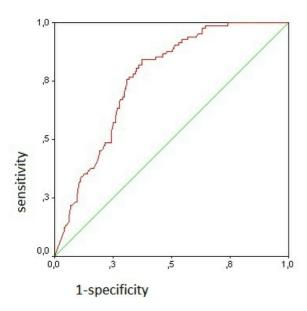


Fig.1 ROC analysis of sensitivity and specificity of the prognostic model

The area under the ROC curve is 0.76, which makes it possible to estimate the predictive accuracy of the model as high, 95%CI (0.71-0.81), p=0.26. For the selected total value of the discriminant function 1.184, sensitivity is 85.4%, specificity - 59.3% (Fig.1).

## **Conclusion:**

The developed method for predicting the MDA achievement in PsA pts including the following indicators: CRP, LEI, the presence of hypertension and obesity, severity of PsO - makes it possible to predict the treatment outcome in PsA pts.







## Clinical Characteristics, Treatment and Quality of Life of Palmoplantar Psoriasis Patients in Malaysia

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## **Introduction & Objectives:**

Palmoplantar psoriasis (PP) is a clinical variant of psoriasis that primarily affects the palms and soles, accounting for 3%–4% of all patients with psoriasis. Lesions are characterized by well-demarcated, scaly erythematous plaques in an acral distribution and usually accompanied by fissures and hyperkeratosis with or without pustules. This study aims to explore the clinical features, treatment options, and quality of life of patients with non-pustular palmoplantar psoriasis (PP), comparing them with palmoplantar pustulosis (PPP) and other psoriasis subtypes.

#### Materials & Methods:

This was a multicentre retrospective cross-sectional study involving patients enrolled in the Malaysian Psoriasis Registry (MPR) between 1st January 2007 to 31st December 2023. The diagnosis of psoriasis was based on clinical evaluation by a dermatologist. Data on demographics, clinical features, treatment and quality of life were collected. Categorical data were analyzed using Chi-square or Fisher's exact test. Analysis of continuous data was performed using the independent t-test.

#### **Results:**

Among the total of 30491 patients included in this study, 91 (0.3%) had PP and 76 (0.2%) had PPP. There was a male predominance in the PP group compared to the PPP group (male:female ratio 1.4:1 vs. 0.5:1, p = 0.001) (Table 1). Patients with PP were found to have an older mean age of onset compared to other subtypes of psoriasis (40.49±19.24 vs. 33.22±17.06, p=0.001) (Table 2).

Approximately 57.1% of PP patients and 55.4% of PPP patients had nail involvement. The rate of psoriatic arthritis was lower in the PP group compared to other psoriasis subtypes (5.6% vs. 13.2%, p=0.03) (Table 2). Patients with PP were found to have lower frequencies of scalp and facial involvement compared to PPP (20.5% vs. 37.1%, p=0.02 and 7.7% vs. 27.6%, p=0.01 respectively). One-third of PP patients had a history of smoking.

Patients with PP were less often treated with systemic therapy and had lower hospitalization rates than those with PPP (15.4% vs. 53.4%, p=0.001; 3.4% vs. 13.7%, p=0.02). The most commonly used systemic treatments in PP were methotrexate (57.1%), acitretin (35.7%), and systemic corticosteroids (7.2%). About one-third of patients with PP (33.3%) and PPP (35.8%) reported severe quality of life impairment.

Table 1: Demography, clinical characteristics, quality of life and treatment of patients with palmoplantar psoriasis and palmoplantar pustulosis

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Demographic characteristics	Palmoplantar psoriasis (PP)	Palmoplantar pustulosis (PPP)	p value
Age of onset (years)(mean ± SD)	n=91	n=76	0.07
Gender, n (%)	40.49±19.24 n=91	35.14±16.96 n=76	0.001
Male	53 (58.2)	24 (31.6)	
Female	38 (41.8)	52 (68.4)	
Male:Female Ethnicity, n (%)	1.4:1 n=91	0.5:1 n=76	
Malay	42 (46.2)	49 (64.5)	
Chinese	19 (20.9)	16 (21)	
Indian	14 (15.3)	3 (4)	
Others	16 (17.6)	8 (10.5)	
Family history of psoriasis, n (%)	n=90	n=75	0.43
Yes	16 (17.8) 74 (82.2)	17 (22.7) 58 (77.3)	
No			
Body mass index (kg/m²), n (%)	n=88	n=70	0.99
<25	39 (44.3) 49 (55.7)	31 (44.3) 39 (55.7)	
≥25			
Comorbidities, n (%)	n=91	n=73	
Dyslipidaemia	22, n=90 (24.2)	15 (20.5)	0.56
Hypertension Diabetes melitus	24 (26.4)	15 (20.5) 13, n=74 (17.6)	0.38
Ischemic heart	18 (19.8)	1, n=72 (1.4)	0.06
disease	7 (7.7)	1 (1.4)	0.69
Stroke Scalp involvement, n	2 (2.2) n=83	n=70	0.02
(%)		26 (37.1)	0.02
Face involvement, n	17 (20.5) n=91	n=58	0.01
(%)	7 (7.7)	16 (27.6) n=74	0.82
Nail involvement, n (%)	n=91 52 (57.1)	n=74 41 (55.4)	0.82
	30 (57.7)	22 (53.7)	
Pitting	23 (44.2)	17 (41.5)	
Discoloration	17 (32.7)	5 (12.2)	
Total nail dystrophy	9 (17.3)	11 (26.8)	
Onycholysis	14 (26.9)	11 (26.8)	
Subungual hyperkeratosis			
Joint involvement, n (%)	n=90	n=75	0.77
(**)	5 (5.6)	5 (6.7)	
Oligo-	1 (20)	4 (80) 1 (20)	
/monoarthropathy	1 (20) 2 (40)	0	
Distal hand joints arthropathy	1 (20)	0	
Symmetrical	0	0	
polyarthropathy			
Spondylitis/sacrollitis			
Arthritis mutilans Smoking history, n (%)	n=74	n=67	
Girman grinding, in (18)	24 (32.4)	12 (17.9)	
Aggravating factors		n=53	
Infection, n (%)	5, n=74 (6.8)	3 (5.7)	0.80
Drugs	2, n=75 (2.7)	4 (7.5)	0.20
Pregnancy	2, n=73 (2.7)	3, n=54 (5.6)	0.04
Smoking Alcohol	2, n=73 (2.7)	1 (1.9)	0.76
Stress	18, n=78	20. n=55 (36.4)	0.10
	(23.1) 0.54±3.28	1.07±4.11	0.38
No. of days missed school/work (mean ±	0.5413.28	1.0724.11	0.38
SD) No. of patients with ≥1	n=87	n=73	0.02
hospitalization in 6	3 (3.4)	10 (13.7)	
months, n (%) DLQI	n=84	n=67	
DLQI>10, n (%)	28 (33.3)	24 (35.8)	0.92
Mean DLQI (SD)	10.68±6.19	10.31±7.15	0.77
Mean cDLQI (SD)	12.50±5.65	5,89±8,09 2,53±1,61	0.08
DLQI scores (mean ± SD)	3.04±1.50	2.53±1.61 2.25±1.88	0.05
		E-2011.00	0.00
Symptoms and	2.12±1.65 2.33+1.88		0.63
Symptoms and feelings	2.33±1.88	2.18±2.00	0.63
Symptoms and feelings Daily activities Leisure			0.63 0.28 0.49
Symptoms and feelings Daily activities Leisure Work and school	2:33±1.88 0:94±1.04	2.18±2.00 1.15±1.16	0.28
Symptoms and feelings Daily activities Leisure Work and school Personal relationship	2.33±1.88 0.94±1.04 1.11±1.35	2.18±2.00 1.15±1.16 1.27±1.42 0.82±0.92	0.28
Symptoms and feelings Daily activities Leisure Work and school Personal relationship Treatment Troatment	2.33±1.88 0.94±1.04 1.11±1.35 0.81±0.87	2.18±2.00 1.15±1.16 1.27±1.42 0.82±0.92 n=73	0.28 0.49 0.99
Symptoms and feelings Daily activities Leisure Work and school Personal relationship Treatment Treatment Topical therapy	2.33±1.88 0.94±1.04 1.11±1.35 0.81±0.87 n=91 87 (95.6)	2.18±2.00 1.15±1.16 1.27±1.42 0.82±0.92 n=73 65, n=72 (90.3)	0.28 0.49 0.99
Symptoms and feelings Daily activities Leisure Viork and school Personal relationship Treatment Treatment Topical therapy Phototherapy	2.33±1.88 0.94±1.04 1.11±1.35 0.81±0.87 n=91 87 (96.6) 1 (1.1)	2.18±2.00 1.15±1.16 1.27±1.42 0.82±0.92 n=73 65, n=72 (90.3) 1 (1.4)	0.28 0.49 0.99 0.18 0.88
Symptoms and feelings loaily activities Leisure Work and school Personal relationship Treatment Treatment Topical therapy Phototherapy Systemic treatment	2.33±1.88 0.94±1.04 1.11±1.35 0.81±0.87 n=91 87 (95.6) 1 (1.1) 13 (14.3)	2.18±2.00 1.15±1.16 1.27±1.42 0.82±0.92 n=73 65, n=72 (90.3) 1 (1.4) 39 (53.4)	0.28 0.49 0.99
Symptoms and feelings  Daily activities Leisure  Work and school  Personal relationship  Treatment  Treatment  Topical therapy  Phetotherapy  Systemic treatment  Methotrexade	2.33±1.88 0.94±1.04 1.11±1.35 0.81±0.87 n=91 87 (95.6) 1 (1.1) 13 (14.3) 8 (57.1)	2.18±2.00 1.15±1.16 1.27±1.42 0.82±0.92 n=73 65, n=72 (90.3) 1 (1.4) 39 (53.4) 14 (35.9)	0.28 0.49 0.99 0.18 0.88
Symptoms and feelings Coally activities Leisure Work and school Personal relationship Treatment Tronatment Topical therapy Phototherapy Systemic treatment Methodrexate Activation	2.33±1.88 0.94±1.04 1.11±1.35 0.81±0.87 n=91 87 (95.6) 1 (1.1) 13 (14.3) 8 (57.1) 5 (35.7)	2.18±2.00 1.16±1.16 1.27±1.42 0.82±0.92 n=73 65, n=72 (00.3) 1 (1.4) 39 (53.4) 14 (35.9) 21 (53.8)	0.28 0.49 0.99 0.18 0.88
Symptoms and feelings Leisune feelings Daily activities Leisune Work and school Personal relationship Treatment Topical therapy Phototherapy Systemic treatment Methorexale Activatis Cyclosporin	2.33±1.88 0.94±1.04 1.11±1.35 0.81±0.87 n=91 67 (95.6) 1 (1.1) 13 (14.3) 8 (57.1) 5 (35.7) 0	2.18±2.00 1.15±1.16 1.27±1.42 0.82±0.92 n=73 65, n=72 (90.3) 1 (1.4) 39 (53.4) 14 (35.9) 21 (53.8) 1 (2.6)	0.28 0.49 0.99 0.18 0.88
Symptoms and feelings Coally activities Leisure Work and school Personal relationship Treatment Tronatment Topical therapy Phototherapy Systemic treatment Methodrexate Activation	2.33±1.88 0.94±1.04 1.11±1.35 0.81±0.87 n=91 87 (95.6) 1 (1.1) 13 (14.3) 8 (57.1) 5 (35.7)	2.18±2.00 1.16±1.16 1.27±1.42 0.82±0.92 n=73 65, n=72 (00.3) 1 (1.4) 39 (53.4) 14 (35.9) 21 (53.8)	0.28 0.49 0.99 0.18 0.88

Table 2: Demography, clinical characteristics, quality of life and treatment of patients with palmoplantar psoriasis and other subtypes of psoriasis

Demographic characteristics	Palmoplantar	Other subtypes of	p value
Age of onset (years)(mean ± SD)	peorlasis (PP) n=91	psoriasis n=30400	0.001
	40.49±19.24	33.22±17.06	0.50
Gender, n (%) Male	n=91 53 (58.2)	n=30400 16642 (54.7)	0.50
Female	38 (41.8)	13758 (45.3)	
Male:Female	1.4:1	1.2:1	
Ethnicity, n (%) Malay	n=91	n=30389	
Chinese	42 (46.2) 19 (20.9)	17214 (56.6) 5362 (17.6)	
Indian	14 (15.3)	4701 (15.5)	
Others	16 (17.6)	3112 (10.3)	
Family history of psoriasis, n (%) Yes	n=90 16 (17.8)	n=29985 7083 (23.6)	0.19
No	74 (82.2)	22902 (76.4) n=28338	
Body mass index (kg/m2), n (%)	n=88		0.93
<25	39 (44.3)	12425 (43.8)	
≥25 Comorbidities, n (%)	49 (55.7) n=91	15913 (56.2)	
Dyslipidaemia	22, n=90 (24.2)	5063, n=29698 (17.1)	0.07
Hypertension	24 (26.4)	7098, n=29613 (23.8)	0.57
Diabetes mellitus	18 (19.8)	4752, n=29787 (16)	0.32
Ischemic heart disease Stroke	7 (7.7) 2 (2.2)	1381, n=29772 (46.4) 443, n=29760 (14.9)	0.17
Scalp involvement, n (%)	n=83	n=29329	0.58 <0.001
Face involvement, n (%)	17 (20.5) n=91	22131 (75.5) n=29961	<0.001
	7 (7.7)	13113 (43.7)	
Nail involvement, n (%)	n=91	n=30062	0.67
Pitting	52 (57.1) 30 (57.7)	16513 (54.9) 11907 (72.1)	
Pitting Discoloration	23 (44.2)	7602 (46)	
Total nail dystrophy	17 (32.7)	2103 (12.7)	
Onycholysis	9 (17.3)	825 (5)	
Subungual hyperkeratosis	14 (26.9) n=90	4175 (25.3) n=30064	0.03
Joint involvement, n (%)	5 (5.6)	3974 (13.2)	0.03
Oligo-/monoarthropathy	1 (20)	1512 (38)	
Distal hand joints arthropathy	1 (20)	1268 (31.9)	
Symmetrical polyarthropathy	2 (40)	1165 (29.3)	
Spondylitis/sacroilitis	1 (20)	340 (22.5)	
Arthritis mutilians Smoking history, n (%)	0 n=74	109 (2.7) n=22154	
	24 (32.4)	6102 (27.5)	
Aggravating factors	5 74 (5.6)	4702 20000 (0.0)	0.61
Infection, n (%) Drugs	5, n=74 (6.8) 2, n=75 (2.7)	1762, n=20989 (8.8) 591, n=20714 (28.5)	0.92
Pregnancy	0	475, n=20729 (22.9)	0.19
Smoking	2, n=73 (2.7)	1067, n=20857 (5.1)	0.36
Alcohol	0	396, n=20652 (1.9)	0.23
Stress No. of patients with ≥1	18, n=78 (23.1) n=87	9765, n=23641 (41.3) n=29143	0.001
hospitalization in 6 months, n (%)			0.0
Body surface area of psoriasis	3 (3.4) n=91	687 (2.4) n=23334	
<5%	42 (46.2)	10311 (44.2)	
5%-10% 11%-90%	19 (20.9) 14 (15.3)	7582 (32.5) 5095 (21.8)	
> 90%	16 (17.6)	346 (1.5)	
DLQI	n=84	n=23753	
DLQI>10, n (%)	28 (33.3)	10123 (42.6)	0.69
Mean DLQI (SD) Mean cDLQI (SD)	10.68±6.19 12.50±5.65	9.97±6.86 8.82±5.98	0.37
DLQI scores, mean ± SD	12,0050.00	0.0610.90	9.17
Symptoms and feelings	3.04±1.50	2.87±1.57	0.33
Daily activities	2.12±1.65	2.10±1.76	0.90
Leisure Work and school	2.33±1.88	2.03±1.86	0.15
Work and school Personal relationship	0.94±1.04 1.11±1.35	0.77±0.96 1.15±1.45	0.22
Treatment		0.87±0.94	0.57 0.57
Severe pscriasis (BSA > 10% and/or DLQI > 10)	0.81±0.87 n=75	n=26738	0.08
Treatment	28 (37.3) n=91	12618 (47.2) n=22362	
Topical therapy	87 (95.6)	27314, n=29868 (91.4)	0.16
Phototherapy	1 (1.1)	712, n=29557 (2.4)	0.42
Systemic treatment	13 (14.3)	4415 (14.8)	0.88
Methotrexate	8 (57.1)	3483 (73.2) 851 (17.9)	
Acitretin Cyclosporin	5 (35.7)	851 (17.9) 224 (4.7)	
Systemic corticosteroids	1(7.2)	200 (4.2)	
Biologic	0	175 (0.8)	
TNF a inhibitors		58 (33.1)	0.44
IL12/23 inhibitors		35 (20)	
IL17 inhibitors		60 (34.3)	
IL23 inhibitors		18 (10.3)	
CD11a		4 (2.3)	

# **Conclusion:**

Palmoplantar psoriasis was associated with an older age of onset, male sex and a lower rate of psoriatic arthritis compared to other psoriasis subtypes. Despite experiencing significant impairment in quality of life, patients with PP were less likely to receive systemic therapy, thus highlighting the importance of recognising this condition and instituting appropriate treatment strategies to alleviate the physical and psychological burdens of PP.







## Quality of Life assessment With Barcitinib treatment in Patients With Moderate-to-Severe Psoriasis

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# **Introduction & Objectives:**

Psoriasis is a chronic relapsing disease and it affects patients Quality of life(Qol). Baricitinib is a JAK inhibitor that causes significant improvement in psoriasis disease severity and symptoms with 12 weeks' therapy. It is an oral medication that provides patients with a viable alternative to injectable therapies.

#### **Materials & Methods:**

30 patients with moderate to severe plaque psoriasis was given baricitinib orally for 12 weeks, as 4mg twice daily based on weight. Improvement in PASI and DLQI was recorded.

#### **Results:**

Significant improvement was observed in PASI score (38% PASI-75 and 24% PASI-50) (p-value 0.005). At baseline, the mean DLQI of cases was  $6.4\pm4.9$ . A This DLQI was reduced to  $2.3\pm1.2$  Statistically, there was a highly significant improvement in DLQI (p-value 0.002).

The 2 item of DLQI that had greatest improvement including symptoms and feelings (p-value-0.005) and treatment (p-value-0.001)

The safety of baricitinib had evaluated in this study. There was a transient rise in lipid profile in 7 (23.3%) cases (Tg in 3 cases ,LDL in 2cases and VLDL in 2cases).2 cases had transient liver enzymes. Gastric and abdominal pain was observed in 12 patients (40%).

## **Conclusion:**

Patients with moderate-to-severe psoriasis treated with baricitinib for 12 weeks achieved significant improvements in DLQ and it also demonstrated a significant improvement in psoriasis disease severity and symptoms with 12 weeks' therapy.

Key words:Baricitinib,psoriasis,quality of life







# Real-world effectiveness and prognostic factors of response to treatment with bimekizumab in psoriasis patients: A multicentre, retrospective study over a 1-year period

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**Introduction & Objectives:** The effectiveness and safety of bimekizumab have been demonstrated in phase 2 and 3 clinical trials in patients suffering from moderate-to-severe plaque psoriasis. However, real-world reports with prognostic factors for treatment success are limited.

Materials & Methods: We conducted a multicentre, observational, retrospective study which included adult patients with moderate-to-severe plaque psoriasis from 3 major dermatology departments. The main measure of disease severity utilized was the psoriasis area severity index (PASI), which was evaluated at baseline and each sequential visit for each patient. The primary outcomes regarding treatment effectiveness at each follow-up visit (12/16, 24, and 52 weeks) included PASI 75/90/100 (reduction in baseline PASI score by 75/90/100%), PASI≤3 and PASI≤1. Multivariate logistic regression analysis was used to identify variables affecting response to treatment (sex, obesity, age at drug initiation, disease duration, psoriatic arthritis, baseline PASI, bio-naivety, previous treatment with IL-17 inhibitors, ≥2 biologics and ≥2 systemics). All medication related adverse events (AEs) were documented.

**Results:** In total, 147 (41.5% females) were identified and included. PASI75/90/100 was achieved by 92.6/82/73% of the evaluated patients at week 12/16, by 89.1/84.5/80% of patients at week 24 and by 95.9/90.4/86.3% of patients at week 52. At week 52, 97.3% and 93.2% had a PASI  $\leq$  3 and PASI  $\leq$  1 score, respectively.

In our study, the previous use of  $\geq 2$  systemic agents (not biologics) negatively affected the possibility of achieving PASI  $\leq 3$  at week 12/16 (p = 0.009). Negative prognostic factors for PASI  $\leq 3$  at week 24 included older age at drug initiation (p = 0.003), longer disease duration (p = 0.05), and concomitant psoriatic arthritis (p = 0.034). For those reaching 52 weeks, no factor seemed to influence response to treatment. Interestingly, at all timepoints, body weight and previous use of biologics had no significant impact on any treatment outcome.

In total, 15 (10.2%) patients experienced AEs: 13 were diagnosed with fungal infections (9 oral infections, 3 intertriginous infections, 1 recurrent otitis externa infection), 1 developed widespread impetigo lesions on upper and lower extremities and 1 patient reported ocular disturbances with excessive lacrimation. During observation, 11 (7.5%) patients discontinued bimekizumab (4 due to AEs, 1 due to primary drug failure, 6 due to secondary drug failure).

**Conclusion:** Our study demonstrates that bimekizumab is a generally safe and effective option for the management of moderate-to-severe plaque psoriasis, even for obese and bio-experienced patients. Our study's main strengths include the long-term follow up, the relatively large patient sample, and the multivariate analysis for prognostic factors, with its main limitation being its retrospective design.







## Epidemiological clinical and evolving profile of psoriasis, about 153 cases

Said Benahmed\*1

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## **Introduction & Objectives:**

Psoriasis is a common chronic inflammatory dermatosis with immune-mediated pathogenesis. Understanding and management of this disease have evolved rapidly in recent years

The aim of our study was to analyze the epidemiological, clinical and evolutive aspects of psoriasis in our hospital.

#### **Materials & Methods:**

This was a prospective descriptive study conducted over a period of 39 months, from June 2019 to August 2022. In addition to the descriptive analysis of the epidemiological, clinical and evolutive aspects, this study evaluated the impact of this dermatosis on the quality of life of patients and allowed the analysis of cardiovascular risk factors.

#### **Results:**

A total of 153 cases were collected, representing 6.3% of all consultation requests. The mean age of the patients was 36.4  $\pm$  7.5 years with a clear male predominance (sex ratio of 12.9) and a majority of military patients. Psoriasis type I was the most frequent. The main triggering factor identified was psychological, and the predominant clinical form of psoriasis was plaque psoriasis. Appendages involvement was common. 18.3% of patients had a severe form according to the PASI score, 26.8% according to the BSA score, 15.7% according to the DLQI score and 33% according to the combined scores. The prevalence of metabolic syndrome was 10.5% of patients. Most patients (70%) received topical treatment alone. A small proportion of patients (6.5%) received UVB phototherapy, while 23% received systemic treatment. 46.4% of patients were recommended for psychological and/or psychiatric follow-up, revealing a high prevalence of neuropsychiatric disorders.

#### **Conclusion:**

Our study is a preliminary approach that should serve as a basis for further multicenter studies involving larger and more diverse samples, as well as a longer follow-up period. These studies will thus be able to provide a more complete profile of patients with psoriasis.







#### CAL/BDP cream is effective even in the most difficult locations

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## **Introduction & Objectives:**

-Topical treatment represents a keystone in the management of psoriasis, as around 70–80% of patients with mild-to-moderate disease can be successfully controlled with topical therapies. Topical agents are the first-line treatments in psoriasis and they can be combined with phototherapy or systemic therapy when topical treatment alone is unlikely to adequately control psoriasis.

#### **Materials & Methods:**

-The fixed-dose combination of calcipotriol (CAL) and betamethasone dipropionate (BDP) represents the first-line choice in topical psoriasis treatment. A CAL/BDP cream based on polyaphron dispersion (PAD) Technology has emerged as a novel formulation for a more convenient topical treatment of psoriasis. This technology also demonstrated to increase the cosmetic acceptability and to provide the desirable sensory properties for a topical psoriasis treatment. CAL/BDP cream is applied topically once daily to affected areas for up to 8 weeks

#### **Results:**

- We report 7 cases of psoriasis in different locations with a great impact on the quality of life of those patients in which CAL/BDP cream significantly improved psoriasis and quality of life resulting in marked treatment satisfaction.

#### **Conclusion:**

- As a conclusions, CAL/BDP cream is an effective, approved and marketed therapy for the treatment of plaque and scalp psoriasis. Its innovative PAD<sup>™</sup> (oil in water) formulation has an internal oil phase stabilized by encapsulation in a multimolecular emulsifying structure, which allows for a more fluid and better tolerated product by patients.

There are articles based on patient surveys that reflect the importance of the texture of topical treatments to achieve therapeutic success. Other studies reflect this better tolerability of CAL/BD cream compared to suspension/gel.

For all these reasons, CAL/BDP cream is positioned as an effective first-line treatment for the treatment of mild-moderate plaque psoriasis and scalp involvement. Thanks to the incorporation of PAD™ technology into the product, tolerability is increased (by improving cosmeticity) compared to CAL/BD ointment or foam, translating into better adherence to treatment and therefore greater effectiveness and improvement in the quality of life of patients.







# Effectiveness of tildrakizumab on quality of life and burdensome symptoms in patients with moderate-to-severe psoriasis in routine care

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## **Introduction & Objectives:**

Psoriasis is a chronic inflammatory disease that profoundly impairs patients' social, emotional, functional, and physical condition. Itch and skin pain can be two of the most burdensome symptoms associated with psoriasis. Tildrakizumab is an interleukin-23p19 inhibitor indicated for the treatment of moderate-to-severe plaque psoriasis with demonstrated long-term efficacy and safety. The objectives of this analysis were to assess the effectiveness of tildrakizumab on burdensome symptoms and the quality of life in patients with moderate-to-severe psoriasis in routine care in two hospitals in Austria.

#### **Materials & Methods:**

Effectiveness assessments in this analysis included Psoriasis Area and Severity Index (PASI). The HRQoL instrument was Dermatology Life Quality Index-Relevant (DLQI-R; range 0-30, where a higher score represents a greater impairment in HRQoL; 0-1=no effect on patient's life). Patient-reported outcomes included 11-point Itch-, Skin Pain- and Fatigue-Numeric Rating Scale (NRS), ranging from 0 to 10 (10=worse symptoms). Data are reported using an observed cases approach.

## Results:

A total of 43 patients were included (65% male, mean $\pm$ 95%CI age of 45.7 $\pm$ 4.5 years, mean $\pm$ 95%CI Body Mass Index of 29 $\pm$ 1.9 kg/m²). Mean $\pm$ 95%CI Psoriasis Area and Severity Index (PASI) decreased from 10.4 $\pm$ 2,5 at baseline to 1.9 $\pm$ 0.8 at week 16 and to 0.8 $\pm$ 0.3 at week 28. At week 28 98%/83% of patients achieved PASI  $\leq$ 3/ $\leq$ 1. Mean $\pm$ 95%CI DLQI score decreased from 13.5 $\pm$ 2.4 at baseline to 4.8 $\pm$ 1.8 at W16 and to 3.0 $\pm$ 0.7 at W28. At W28 61% of patients had a DLQI score between 0 and 1. At baseline all patients reported itch symptoms, 39 had skin pain and 37 suffered from fatigue. The mean $\pm$ 95%CI Itch-NRS improved from 6.4 $\pm$ 0.7 at baseline to 2.2 $\pm$ 0.7 at week 16 and to 1.9 $\pm$ 0.8 at week 28. The mean $\pm$ 95%CI skin pain-NRS improved from 4.7 $\pm$ 1.0 at baseline to 1.7 $\pm$ 0.7 at week 16, and to 1.1 $\pm$ 0.7 at week 28.

#### **Conclusion:**

Patients treated with tildrakizumab in a real-world setting achieved rapid and significant reductions in burdensome symptoms of psoriasis (itch, skin pain, and fatigue), skin symptoms and quality of life after 16 weeks, which were maintained through week 28.







# Characterization of ORKA-002, a Novel Extended Half-life Monoclonal Antibody Targeting IL-17A/F for the Treatment of Psoriasis and Other Indications

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## **Introduction & Objectives:**

Interleukin 17 (IL-17) is a pro-inflammatory cytokine that has been implicated in the pathogenesis of multiple autoimmune conditions, including psoriasis and psoriatic arthritis (PsA). The IL-17 family of cytokines includes 6 members (IL-17A to IL-17F). Both IL-17A and IL-17F are key drivers in the pathogenesis of psoriatic disease, being highly overexpressed in psoriatic plaques and inflamed synovium of patients with PsA. Recently, a biologic molecule targeting both IL-17A and IL-17F, bimekizumab (BIME), has demonstrated high efficacy that exceeds therapies targeting IL-17A only. ORKA-002 is a novel, extended half-life, humanized, monoclonal antibody that binds to IL-17A/F with high affinity. ORKA-002 has been engineered to have optimized properties with the aim of delivering an enhanced clinical profile compared to currently available treatments for psoriasis and other inflammatory diseases.

## **Materials & Methods:**

ORKA-002 was evaluated in multiple *in vitro* and *ex vivo* assays in comparison to BIME. Binding affinity to IL-17A and IL-17F was determined by surface plasmon resonance (SPR). Antagonism of IL-17A and IL-17F signaling was evaluated via assays measuring NFKB activation in reporter cell lines. Inhibition of IL-17A-induced or IL-17F-induced IL-6 secretion was assessed using *in vitro* cellular assays using normal human dermal fibroblasts. Half-life extension was measured via pharmacokinetic (PK) analysis in cynomolgus monkeys dosed with a single bolus of ORKA-002.

## Results:

ORKA-002 bound specifically to human IL-17A and IL-17F with high affinity. IL-17A/F binding affinity and functional potencies for IL-17A/F antagonism were comparable to BIME. The half-life of ORKA-002 was significantly extended in cynomolgus monkeys compared to BIME. Based on allometric scaling of the clearance of ORKA-002 observed in this study, predictive simulations of ORKA-002 PK in humans suggest that subcutaneous maintenance dosing every four to six months could be achieved while maintaining high antibody exposures.

#### **Conclusion:**

ORKA-002 exhibits high selectivity and affinity for IL-17A and IL-17F *in vitro*, potent inhibition of downstream cellular signaling *ex vivo*, and an extended half-life in non-human primates compared to BIME, providing the potential for comparable or increased efficacy compared with BIME combined with dosing every four to six months. Pre-clinical evidence for ORKA-002 reported here may lead to therapeutic improvements for psoriatic disease and other inflammatory conditions amenable to IL-17 inhibition. Clinical studies are planned to explore this potential.

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## Variability in eotaxin (CCL11) gene associated with psoriasis phenotypes

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## **Introduction & Objectives:**

Several gene targets were identified for psoriasis. Some are currently being explored as potential therapeutic targets including CCL11. Our task was to prove a possible association of a single-nucleotide polymorphisms +67 G/A and -426 T/C in the eotaxin gene (CCL11, 17q 21.3) with development and clinical aspects of psoriasis as an immune-based dermatological disease and evaluate its relationship to potential comorbidities.

#### **Materials & Methods:**

In total, 460 patients with psoriasis were included to the case control and genotype- phenotype study together with 167 control persons of similar age and sex distributions without personal and/or family history of chronic disease of the skin.

Two eotaxin gene polymorphisms were detected from isolated DNA by standard PCR, restriction analysis methods and horizontal electrophoresis.

#### **Results:**

No significant case-control differences in frequency of the CCL11 genotype in both polymorphisms were observed.

In polymorphism +67 G/A, significant increase of the AA genotype in patients with psoriasis guttata compared to plaque psoriasis was found (odds ratio = 5, P =0.006). This trend is more pronounced in men; not in women, when evaluated separately.

A significant association of the A allele in psoriatic patients with personal history of allergy was found (OR=1.63P = 0.02). The A alle was also significantly associated with family history of psoriasis (OR=2.12, P = 0.00008).

In men, a higher risk of delay start of psoriasis (later than in 40 years) associated with T allele of -426 T/C polymorphism (OR=4, P = 0.0007) was found. When double genotypes of both polymorphisms were evaluated, we observed a significant differences of double genotype distribution between men with and without family history of allergy (Pdg = 0.0005) and between those with and without affected siblings (Pdg = 0.03)

In women with psoriasis, a higher risk of TT genotype of -426 T/C polymorphism in patients with personal history of diabetes (OR=25, P=0.001) as well as in patient with both personal history of cardiovascular disease and diabetes (OR = 41, P=0.00005) was proved. When double genotypes of both polymorphisms were evaluated, the significance of double genotype difference between those with and without personal history of diabetes was very high (Pdg = 0.0002). Similarly, also the significance of double genotype difference between those with and without personal history of cardiovascular diseases and diabetes was very high (Pdg = 0.000001)

**Conclusion:** CCL11 is considered one of the basic chemokines responsible for the origin and development of immune-based reactions. Based on our results, we suggest that the +67 G/A CCL11 polymorphism should be considered as a gene modulator of psoriasis in specific subgroups of patients. Similar genetic characteristics could contribute to the data assembly of genetic predisposition to psoriasis and could lead to therapy improvement based on time-proved individual

pharmacogenetic aspects detected in psoriasis patients.







Impact of adherence to treatment with calcipotriol and betamethasone dipropionate cream with PAD technology (CAL/BDP PAD cream) on S-mPASI, scalp-itch and sleep quality among patients with mild-to-moderate scalp psoriasis in clinical practices in Europe: Final analysis of PRO-SCALP study

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## **Introduction & Objectives:**

Scalp psoriasis imposes significant burden on patients, including itching and sleep deprivation [1]. Effective treatments for scalp psoriasis are essential to improve patient outcomes. Objectives of the analyses are to evaluate S-mPASI (Scalp-modified Psoriasis Area and Severity Index), scalp-itch and sleep quality scores at week-8 (w8), stratified by treatment adherence, among patients with scalp psoriasis treated with CAL/BDP PAD cream in real-world practices in Europe.

## **Materials & Methods:**

This single-arm, prospective cohort study (PRO-SCALP) was conducted in adults with mild-to-moderate scalp psoriasis newly initiated on CAL/BDP PAD cream as part of usual care in Germany, Spain and the United Kingdom. Patients and clinicians completed surveys and clinical assessments at baseline and w8. Clinicians assessed treatment response using S-mPASI scores at w8. Patients reported worst level of scalp-itch using scale of 0 (no-itching) to 10 (worst-itching-imaginable), and reported sleep quality in terms of number of nights sleep was affected due to scalp psoriasis past week. Patient self-reported adherence to CAL/BDP PAD cream was measured using visual analogue scale (VAS; score:0-100). Outcomes at w8 were analysed, stratified by low-adherence-group (VAS<80) vs. high-adherence-group (VAS=80-100).

#### **Results:**

Final analyses included 253 patients (mean age: 47.9yrs; female: 65.2%), and 250 patients had evaluable clinician-reported outcomes data. At w8, 59.9% and 40.1% of patients reported high (VAS:80-100) and low (VAS<80) adherence, respectively. A statistically significant (p<0.0001) decrease in change from baseline (CFB) in mean S-mPASI score was observed (baseline: 1.77; w8: 0.30; CFB: -1.47); this CFB in S-mPASI score was statistically significantly (p=0.0153) higher in high-adherence-group (-1.63) vs. low-adherence-group (-1.25). At w8, significant (p<0.0001) decrease in mean itch score from baseline (-3.77) was observed; there was significant (p<0.0001) decrease in itch score from baseline within respective adherence groups, and there was significantly (p=0.0001) more reduction in itch score in high-adherence-group (-4.43) vs. low-adherence-group (-2.79). At w8, significant (p<0.0001) decrease from baseline in mean number of nights sleep was affected by scalp-psoriasis past week (-1.17) was observed, and these reductions were significant (p<0.0001) within both high-adherence group (-1.25) and low-adherence group (-1.06).

#### Conclusion:

In real-world settings in Europe, majority of patients with mild-to-moderate scalp psoriasis using CAL/BDP PAD cream experienced statistically significant reduction in S-mPASI score, scalp-itch score and number of nights sleep was affected by scalp psoriasis, with high-adherence-group experiencing significantly better outcomes.

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Patient treatment adherence, preference over other topicals and perception of cream usability among patients with mild-to-moderate scalp psoriasis using calcipotriene and betamethasone dipropionate cream with PAD technology (CAL/BPD PAD cream) in routine clinical practices in Europe: Final analysis of PRO-SCALP study

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## **Introduction & Objectives:**

Poor accessibility, difficulty in administering and unacceptable cosmetic appeal of topical therapies may negatively influence patient adherence, perception of usability, and preference for scalp treatments [1,2]. The objective of this analysis was to assess treatment adherence, preference over previously used topicals, and perception of cream usability at week 8 (w8), among patients with mild-to-moderate scalp psoriasis using CAL/BPD PAD cream in routine clinical practices in Europe.

## **Materials & Methods:**

This single-arm, prospective cohort study (PRO-SCALP) was conducted in adults with mild-to-moderate scalp psoriasis who were newly initiated on CAL/BDP PAD cream as part of usual care in Germany, Spain and the United Kingdom. Patients and clinicians completed assessments at baseline and w8. Patient preference for current treatment over past topical treatments was assessed using a 5-item patient preference questionnaire (PPQ), with items scored on a Likert scale (0=strongly disagree to 3=strongly agree). Overall PPQ score was 0 (least preferred over past topicals) to 15 (most preferred over past topicals). Patients reported satisfaction with overall usability of CAL/BDP PAD cream and using the cream again in the future using a 10-item CUSP-Q questionnaire, with each item rated 0=not at all to 10=very much; overall CUSP-Q score was 0 (least usability) to 100 (most usability). Patient self-reported adherence to CAL/BDP PAD cream was measured using visual analogue scale (VAS; score:0-100). Outcomes at w8 were analysed, overall and stratified by low-adherence-group (VAS<80) and high-adherence-group (VAS=80-100).

# Results:

Final analysis included 253 patients. At week-8, 59.9% and 40.1% of patients reported high (VAS:80-100) and low (VAS<80) treatment adherence, respectively. Patient preference (strongly agree/agree) for CAL/BPD PAD cream was evident from 81.4% reporting current treatment as more effective, 69.2% reporting easier to use, 68.8% reporting having fewer side-effects, 77.1% reporting more tolerable, and 79.8% reporting overall preference for CAL/BPD PAD cream (vs. previous topicals). Overall mean PPQ score at w8 was 10.90 (VAS=80-100: 11.53 vs. VAS<80: 9.95, p=0.0012). Overall, 71.9% and 83.0% of patients (scoring 8/9/10) respectively reported high satisfaction with overall usability of the cream and said they would use it again. Mean CUSP-Q score at w8 was 70.60 (VAS=80-100: 72.30 vs. VAS<80: 67.89, p=0.0455).

## **Conclusion:**

In real-world clinical practice settings in Europe, majority of patients with mild-to-moderate scalp psoriasis using CAL/BPD PAD cream reported higher adherence, preference for using CAL/BPD PAD cream in comparison to previous topicals,

higher satisfaction with usability of the cream, and higher interest in using the cream again in the future.

- \1. J Am Acad Dermatol. 2009;60(6):962-71.
- \2. Cutis. 2010;86(3 Suppl):5-31; quiz 32.







# The Gut-Skin Axis in Psoriasis: Evidence-Based Insights from a Meta-Analysis on Probiotics-Synbiotics-Mediated Microbiota Interventions

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## **Introduction & Objectives**

Psoriasis is a chronic immune-mediated skin disease that has been linked to gut microbiota dysbiosis through the gut-skin axis. Recent studies suggest that gut microbiota modulation may help reduce systemic inflammation contributing to psoriasis. This meta-analysis aims to evaluate the efficacy of gut microbiota interventions, specifically probiotics and synbiotics, in psoriasis management by assessing their impact on the Psoriasis Area and Severity Index (PASI) and Dermatology Life Quality Index (DLQI).

# **Materials & Methods**

A meta-analysis was conducted, synthesizing data from 15 randomized controlled trials (RCTs) involving 1,423 participants. The selected studies compared probiotics, synbiotics, and systemic pharmacological therapies, including anti-TNF- $\alpha$  and anti-IL agents. The primary outcomes assessed were PASI and DLQI scores. Statistical analyses were performed using Review Manager 5.4, employing random and fixed effects models with a significance level of p < 0.05. This review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines and has been reviewed and registered with PROSPERO-NIHR (International Prospective Register of Systematic Reviews – National Institute for Health Research) under registration number CRD42025634514.

## Results

Probiotics significantly improved PASI scores (Mean Difference [MD]: -4.05, 95% CI: -6.73 to -1.38; p < 0.0001) and DLQI scores (MD: -5.74, 95% CI: -11.45 to -0.03; p = 0.0001), outperforming synbiotics and systemic pharmacological therapies. Probiotics also demonstrated superior systemic anti-inflammatory effects, reducing TNF- $\alpha$  and IL-17 levels while enhancing gut barrier integrity.

#### Conclusion

This meta-analysis highlights the potential of probiotics as a promising adjunct or alternative therapy for psoriasis. By targeting systemic inflammation via gut microbiota modulation, probiotics may offer a cost-effective and accessible treatment strategy. Future research should focus on long-term efficacy and molecular mechanisms to optimize therapeutic outcomes and integrate gut microbiota interventions into standard dermatological practices.

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## Comparison of patients with axial psoriatic arthritis and patients with axial spondyloarthritis

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**Introduction & Objectives:** it has been detected that psoriatic arthritis (PsA) patients (pts) with axial involvement [axial PsA (axPsA)] and axial spondyloarthritis (axSpA) pts may have clinical, radiographic and genetic differences. To identify the differences between axPsA and axSpA cohorts.

Materials & Methods: 243 pts were examined: 121 with axSpA [group (gr.) 1] and 122 with axPsA (gr. 2). Gr. 1 pts were included according to ASAS criteria for axSpA. Gr. 2 pts were included according to CASPAR criteria, provided they also had axial involvement. Axial involvement was detected in case of radiographic sacroiliitis[(rSI) bilateral grade ≥ 2 or unilateral grade ≥ 3] or active MRI SI (MRI-SI), or ≥1 syndesmophyte(s) of the cervical and/or lumbar spine. Pts were evaluated for presence of inflammatory back pain (IBP) by ASAS criteria. HLA-B27 antigen status was observed. Pts underwent pelvic radiographs, cervical and lumbar spine, hands and feet X-ray. Pts without rSI underwent sacroiliac joints MRI on Philips Multiva 1.5 T scanner. MRI-SI was categorized using ASAS 2016 criteria. All visualization results were interpreted by two musculoskeletal radiologists.

**Results:** pts of gr. 1 were younger (34.9  $\pm$  11.0 vs 45.5  $\pm$  11.4 years old; p < 0.001), more often HLA-B27 positive (82.6% vs 28.5%; p < 0.001) and more often had IBP (93.4% vs 71.9%; p = 0.001). More pts of gr. 2 had older age (> 40 years) at back pain onset (40.7% vs 6.2%; p < 0.001). Gr. 2 pts had higher body mass index (28.7  $\pm$  7.6 vs 25.0  $\pm$ 4.9 kg/m2; p=0.008). Gr. 2 pts had more often peripheral arthritis (89.6% vs 70.3%; p = 0.015), dactylitis (60.5% vs 19.8%; p = 0.000), and skin psoriasis (91.6% vs 3.3%; p < 0.001). Nail psoriasis was found only in gr. 2 pts (74.5%; p < 0.001). Gr. 1 pts had more often heel enthesitis (81.2% vs 59.7%; p=0.002). Gr. 2 pts had worse axial disease activity scores: BASDAI (5.6 vs 4.5; p = 0.000), mBASDAI (5.2 vs 4.0; p = 0.030) and ASDAS-CRP (2.46 vs 1.76; p < 0.001). Only in gr. 2 pts, chunky "non-marginal" syndesmophytes were found (in 43.5% of cases), as well as spinal lesions without rSI or MRI-SI (in 18.0% of cases). More pts of gr. 2 had joint erosions (49.2% vs 16.2%; p = 0.001), osteolysis (20.5% vs 1.4%; p = 0.000) and juxta-articular bone formation (50.8% vs 13.5%; p < 0.001). Joint ankyloses was found only in gr. 2 pts (in 11.8% of cases p = 0.02). Gr. 2 pts had worse pts reported outcomes: BASFI (4.0 vs 3.1; p=0.004), pts' pain (5.6 vs 4.6; p = 0.005) and pts' global assessments (4.6 vs 5.3; p = 0.003). More pts of gr.1 had a good response to nonsteroidal antiinflammatory drugs. All pts of gr.1 and only 80.0% of gr. 2 (p = 0.003) met ASAS criteria for axSpA.

**Conclusion:** axPsA and axSpA are two different diseases.







## Diagnostic of axial involvement in psoriatic arthritis patients

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**Introduction & Objectives:** there is no unified definition and classification criteria for axial disease in psoriatic arthritis (PsA). To develop unified diagnostic criteria for axial psoriatic arthritis (axPsA).

Materials & Methods: 122 patients with PsA according to CASPAR criteria were included, provided they also had axial involvement. Axial involvement was detected in case of radiographic sacroiliitis [(rSI); bilateral grade ≥2 or unilateral grade ≥3)] or active SI according to magnetic resonance imaging (MRI) – MRI-SI, or ≥1 syndesmophyte(s) of the cervical and/or lumbar spine (CS/LS), or facet joints ankyloses of the CS. Disease duration was less than 10 years. All patients\*\* were evaluated for presence of inflammatory back pain (IBP) by ASAS criteria. Back pain lasting over three months and not meeting ASAS criteria, was considered to be chronic back pain (chrBP). Back pain associated with movement and lasting no more than 2-3 weeks was considered mechanical back pain (mechBP). HLA-B27 antigen status was observed.

**Results:** IBP was identified in 87 (71.3%), chrBP – in 27 (22.1%) patients, mechBP – in 8 (6.6) patients; in 49 (40.2%) patients back pain started at the age of above 40. 120 (98.4%) patients had peripheral arthritis, 75 (61.5%) – dactylitis, 69 (56.6%) – enthesitis, 122 (100%) – psoriasis, 90 (73.8%) – nail psoriasis.\* Isolated axial disease without\* peripheral arthritis was found in 2 (1.6%) patients. RSI was detected in 85 (69.7%) patients, in 28 of 85 (32.9%) patients rSI developed without IBP. Spinal lesions of the LS and CS were found in 100 (82.0%) patients, chunky "non-marginal" syndesmophytes – in 60 (49.2%) patients, asymmetrical syndesmophytes of the LS – in 22 of 72 (30.6%) patients, paravertebral ossification – in 5 (4.1%) patients. Isolated spinal lesions without rSI were found in\* 37 (30.3%), isolated spinal lesions without rSI or MRI-SI – in 21 (17.2%) patients. HLA-B27 was observed in 27 of 86 (31.4%) examined patients. A set of diagnostic examinations to identify axial involvement in PsA patients has been developed. All PsA pts, irrespective of whether they had IBP/chrBP or not, must undergo diagnostic imaging: pelvis, LS and CS X-ray. In patients without rSI, MRI of the sacroiliac joints should be performed.

**Conclusion:** AxPsA diagnosis, regardless of the presence of IBP/chrBP, must be confirmed by imaging. Axial involvement in PsA patients is defined based on radiographic sacroiliitis or MRI-sacroiliitis, or ≥1 syndesmophyte(s) of the cervical and/or lumbar spine, or facet joints ankyloses of the cervical spine. The presence of HLA-B27 was not taken into account, as only one third of axPsA patients were HLA-B27 positive. There is an urgent need for a unified definition of axial involvement in PsA.





## Screening for high risk of axial involvement in psoriatic arthritis

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**Introduction & Objectives:** predictors of axial involvement at early stage of psoriatic arthritis (PsA) haven't been sufficiently studied. To identify predictors of axial involvement in PsA patients (pts) at early stage of disease.

Materials & Methods: 95 patients (pts) (M/F-47/48) with early PsA fulfilling the CASPAR criteria were included. All pts had peripheral arthritis for≤2 years; no inflammatory back pain (IBP) pts were specifically selected. Mean (Me) age 36.5±10.7 years, disease duration 12.2±10.3 months. Pts underwent standard clinical examination of PsA activity. Disease activity indexes DAS=4.0±1.4, BASDAI=4.5±1.6; Pts global disease activity VAS 56.9±17.1. All patients were evaluated for the presence of IBP by ASAS criteria, underwent sacroiliac joints (SJJs) X-ray (pelvic radiographs) and HLA B27 antigen status study. MRI of SJJs was performed in 79 pts, regardless of IBP presence, on Philips Multiva 1.5 T scanner. Radiographic sacroiliitis (R-SJ) was identified according to New York criteria (unilateral grade≥3 or bilateral grade≥2). Bone marrow edema/ osteitis on MRI (STIR) was considered active MRI sacroiliitis (MRI-SJ). All visualization results were interpreted by two musculoskeletal radiologists. Skin lesion severity was evaluated as body surface area (BSA) affected: minor at <3%, mild at 3-10%, severe at >10%. Pts were split into 2 groups (gr.): those with axial involvement (axPsA), that is with IBP and/or R-SJ and/or MRI-SJ; and those without axial involvement (having only peripheral PsA [pPsA]). Multi-dimensional step-by-step discriminant analysis was used to identify a group of features that are more typical for the axPsA patients.

**Results:** IBP was observed in 63 (66.3%) cases, MRI-SI in 28 of 79 (35.4%) examined cases, R-SI in 29 (30.5%) cases. The axPsA gr. included 65 (68.4%) cases, the pPsA gr. 30 (31.6%) cases.\*\* The following features proved to be the most informative: male sex (p = 0.300), presence of HLA B27 (p = 0.107), mild or high DAS (p = 0.098), skin lesion severity BSA>3% (p = 0.118), and CRP > 5 mg/L (0.038). A discriminant rule has been developed that makes it possible to predict high risk of axial involvement in PsA pts: Y = 1.566 × CRP + 0.957 × HLA-B27 + 0.986 × BSA + 1.845 × DAS + 0.6 × sex (M/F). This formula includes the following values: CRP >5 mg/L - 1 point, CRP  $\leq$  5 mg/L - 0 points, HLA-B27 positive - 1 point, HLA-B27 negative - 0 points, BSA >3% - 1 point, BSA  $\leq$  3% - 0 points, DAS is moderate or high - 1 point, DAS is low - 0 points, male sex - 1 point, female sex - 0 points. When Y >3.751 - there is a high risk of axial involvement.

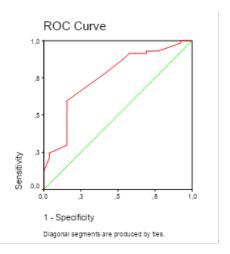


Fig.1 ROC analysis of sensitivity and specificity of the prognostic model of the high risk of axial involvement in PsA Sensitivity of model 79.0%, specificity of model 57.7%.

Area under ROC curve 0.756; 95% CI (0.642-0.869).

**Conclusion:** a combination of features – male sex, HLA-B27 positivity, mild or high activity of peripheral arthritis according to DAS, CRP > 5 mg/L, and BSA> 3% – constitutes a clinical predictor for the development of axial involvement in early psoriatic arthritis.







## Efficacy of PUVA Therapy vs. Biologic Agents in Psoriasis: A Comparative Study

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**Introduction & Objectives:** Recent advances in the treatment of moderate to severe psoriasis include the use of biological therapy targeting the pathogenetic pathways of the disease. However, despite their high efficacy, biological therapies also have several drawbacks: immunogenicity, which may reduce efficacy and necessitate switching to another treatment; limited availability; and a safety profile that is yet to be fully established. In contrast, phototherapy remains an accessible and cost-effective option that has proven to be both effective and safe in treating psoriasis, rivaling many currently available biologics. Comparing the efficacy of phototherapy and biological therapies is therefore timely and essential for optimizing treatment strategies and developing personalized approaches.\*\* This study aims to compare the efficacy of Netakimab (IL-17A inhibitor) therapy with PUVA (Oxoralen + ultraviolet A) in patients with moderate-to-severe and severe vulgar psoriasis.

**Materials & Methods:** The study enrolled 129 patients with moderate-to-severe and severe vulgar psoriasis, divided into two groups: Group 1 consisted of 59 patients treated with Netakimab (#8), while Group 2 included 70 patients receiving PUVA therapy (Oxoralen + ultraviolet A) (#26). The effectiveness of therapy was assessed according to the PASI index at the end of the course. Quality of life was evaluated using the DLQI questionnaire.

**Results:** During the treatment period, 93% of patients in Group 1 reached a PASI 90 score, compared to 84% in Group 2. The average duration of therapy in the Netakimab group was  $5.5\pm0.7$  months, whereas in the PUVA therapy group a comparable effect was achieved in  $1.25\pm0.35$  months. During the observation period after the course of treatment the patients showed statistically significant improvement of the quality of life according to the DLQI questionnaire in comparison with the pre-treatment values (p<0.05), no statistically significant difference between the two groups was observed.

**Conclusion:** PUVA therapy demonstrated comparable efficacy to Netakimab therapy in achieving PASI 90. However, the Netakimab group showed efficacy in a higher percentage of cases than the PUVA therapy group (93% vs. 84%). Both therapies resulted in significant regression of skin lesions and improved quality of life for patients, making them relevant for treating patients with moderate-to-severe disease severity.





Deucravacitinib in Moderate to Severe Plaque Psoriasis: 5-Year, Long-term Safety, Efficacy, and Patient-Reported Outcomes From the Phase 3 POETYK PSO-1, PSO-2, and LTE Trials

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# **Introduction & Objectives:**

Oral targeted therapies for plaque psoriasis with long-term efficacy and safety are needed. Deucravacitinib, an oral, selective, allosteric tyrosine kinase 2 (TYK2) inhibitor, is approved in multiple countries for treatment of adults with moderate to severe plaque psoriasis who are candidates for systemic therapy. Deucravacitinib was efficacious and well-tolerated in the global, 52-week, phase 3 POETYK PSO-1 (NCT03624127) and POETYK PSO-2 (NCT03611751) parent trials. Here, deucravacitinib safety as well as clinical and patient-reported efficacy through 5 years (Week 256; data cutoff, September 2, 2024) are reported.

#### **Materials & Methods:**

Patients were randomized 1:2:1 to oral placebo, deucravacitinib 6 mg once daily, or apremilast 30 mg twice daily. After Week 52, patients enrolled in the POETYK long-term extension (LTE) (NCT04036435) trial received open-label deucravacitinib 6 mg once daily. Safety was evaluated in patients (n=1519) receiving ≥1 dose of deucravacitinib through 5 years in the POETYK PSO-1, PSO-2, or LTE trials. Adverse events are reported as exposure-adjusted incidence rate per 100 person-years. Efficacy and patient-reported outcomes were analyzed in patients who received continuous deucravacitinib treatment from Day 1 of the parent trials and were enrolled and treated in the POETYK LTE trial (n=513). Binary outcomes, including ≥75%/≥90% reduction from baseline in Psoriasis Area and Severity Index (PASI 75/90), static Physician Global Assessment score of 0 (clear) or 1 (almost clear) (sPGA 0/1), and Dermatology Life Quality Index of 0 or 1 (DLQI 0/1) were analyzed using modified nonresponder imputation. Mean change from baseline in the Psoriasis Symptoms and Signs Diary (PSSD) total score was analyzed with baseline observation carried forward with multiple imputation.

# **Results:**

Deucravacitinib was well-tolerated with no new safety signals. In patients receiving continuous deucravacitinib treatment as described above, clinical response rates and patient-reported outcomes were generally maintained from Year 1 (PASI

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75, 72.1% [95% confidence interval (CI), 68.2%-76.1%]; PASI 90, 45.9% [95% CI, 41.5%-50.4%]; sPGA 0/1, 57.5% [95% CI, 53.1%-61.9%]; DLQI 0/1, 52.5% [95% CI, 48.0%-57.1%]; mean change from baseline in PSSD total score, —35.3 [95% CI, —37.7 to —32.9]) to Year 5 (PASI 75, 67.3% [95% CI, 62.0%-72.6%]; PASI 90, 46.3% [95% CI, 41.2%-51.5%]; sPGA 0/1, 52.6% [95% CI, 47.0%-58.1%]; DLQI 0/1, 45.4% [95% CI, 40.0%-50.8%]; mean change from baseline in PSSD total score, —31.8 [95% CI, —34.6 to -29.1]).

#### **Conclusion:**

Deucravacitinib demonstrated a consistent safety profile through 5 years, with no emergence of any new safety signals. Clinical efficacy and patient-reported outcome rates were maintained through 5 years of continuous treatment with once-daily oral deucravacitinib. These data support the long-term safety and durable efficacy profile through 5 years of treatment with deucravacitinib, a first-in-class TYK2 inhibitor treatment for psoriasis.







#### The Real-world Off-label Use of Ustekinumab for patients with moderate-to-severe psoriasis

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## **Introduction & Objectives:**

Ustekinumab is a human interleukin 12/23 monoclonal antibody frequently used to treat psoriasis patients. The BAD guidelines suggest considering dose escalation or interval reduction for biologics when patients have inadequate treatment responses. In the UK, Ustekinumab is licensed for two doses based on the psoriasis patients' weight: 45 mg for patients who weigh up to 100kg and 90mg for patients weighing more than 100kg, given 12-weekly. To date, there is a lack of real-world documented evidence for the efficacy of off-label Ustekinumab in moderate-to-severe psoriasis.

#### **Materials & Methods:**

A retrospective study was conducted from October 2013 to December 2024 at one tertiary referral centre in the UK. Psoriasis response to dose escalation or interval reduction of Ustekinumab was assessed using the Psoriasis Area and Severity Index (PASI). The objectives were to investigate the frequency, reason and efficacy of the off-label use of Ustekinumab in psoriasis patients.

#### **Results:**

A total of 260 patients on Ustekinumab 90mg for psoriasis were identified based on the September 2024 dispensing records. Of these, 156 (60%) were on off-label treatment: 135 did not achieve weight >100kg, nine were on a shortened interval, and twelve had both low weight and a shortened interval. Among the 260 patients (median 97kg), 112 (43%) weighed >100kg and were started on 90mg. Additionally, 42/58 patients (72%) weighing 90-99kg and 13/89 (15%) weighing less than 90kg (67-89kg) were started on a higher dose. Reasons included severe psoriasis with high PASI/DLQI scores and high-impact site involvement.

Overall, 103 patients (40%) underwent dose/interval changes after a median of 105 weeks (range 4-363). Of these, 87 had doses increased from 45 to 90mg, and 18 had intervals reduced to 6-10 weeks. The primary reason for the change was psoriasis relapse during the treatment cycle (n=48), with 82/103 patients (80%) not achieving PASI 75. Other reasons included special site involvement (n=24), DLQI >5 (n=17), and inflammatory arthritis (n=3), weight gain to >100kg (n=5). The median PASI at dose/frequency change was 6.25 (range 0-32.1).

Of the 87 patients who increased from 45 to 90mg, 72% achieved PASI 75, and 45% achieved PASI 90. The median PASI improvement is 12.3 (range -3.3 to 33.5). Seven patients did not achieve PASI 50 due to the lack of documented PASI on follow-ups (n=2), a recent dose increase (n=2), inaccuracy of PASI recording due to eczema/palmoplantar psoriasis (n=2), and one eventually switched to Secukinumab.

Of the 18 patients with a shortened interval, 12 (66%) achieved PASI 50. The median PASI improvement is 13.8 (range -0.3 to 36.9). Reasons for not achieving PASI 50 include a recent interval change (n=3), psoriasis flares (n=2), and lack of documented PASI (n=1). Interestingly, a weight loss trend was observed after starting Ustekinumab (0.8kg).

## **Conclusion:**

Dose escalation or interval reduction was effective, evidenced by the median PASI improvement of 12.6. Patients who weighed more than 90kg were reasonably started on 90mg, as 95% achieved PASI 50. Patients <90kg showed marked improvement with 90mg dosing, with 85% achieving PASI 50 and 70% achieving PASI 75. Limitations included taking PASI

measurements at peak disease activity when the injection is due and lack of full documentation on historical records. These real-world retrospective data support the off-label dose/frequency use of Ustekinumab in patients not responding to the licenced dosing schedule.







## Psoriasis and quality of life: more than just a skin condition

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# **Introduction & Objectives:**

Psoriasis is a chronic, inflammatory, multifactorial dermatosis that impairs quality of life. Health-related quality of life has become an important factor in medical decision-making, alongside the efficacy and safety of treatments.

The aim of our work is to assess the quality of life of psoriasis patients using the DLQI scales and the Skindex16.

#### Materials & Methods:

This is a prospective descriptive study including patients with psoriasis who consulted our dermatology department, over an 18-month period from January 2023 to June 2024. The two questionnaires DLQI and Skindex16 were used in their validated and published Arabic dialect version.

#### **Results:**

We collected a random sample of 150 patients with psoriasis. The sex ratio was M/F = 0.66. The mean age of our patients was 35 years. Phototype ranged from III to IV. 36% (n=54) of patients were illiterate, 60% (n=90) had a low socioeconomic status and 73.3% (n=110) were of urban origin. Most of our patients (80%) were from the Marrakech region. The mean date of onset of psoriasis was 2 years. Plaque psoriasis was the most frequent form, occurring in 80% of cases. Scalp involvement was predominant, found in 66.6% of cases. Body surface involvement was less than 30% in 80% of patients. The majority of patients (83.3%) had mild psoriasis. Psoriasis had a moderate impact on our patients' quality of life. The median DLQI score was 8 (range 1-30). The Skindex16 score was 20 (range 3-64). DLQI QoL scores correlated well with Skindex16 results.

#### **Conclusion:**

Psoriasis has a negative impact on the quality of life of psoriasis patients. Deterioration in quality of life correlates with the severity of psoriasis. Better understanding and communication between psoriasis patients and their dermatologists can help improve not only the clinical outcome of psoriasis, but also patients' quality of life.







## **Optimising Biologic Therapy: On-Demand Dosing in Plaque Psoriasis?**

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## **Introduction & Objectives:**

The excellent response achieved with biological therapies in psoriasis allows for dose reduction in certain cases. We present a series of patients with plaque psoriasis treated with risankizumab, in whom, after maintaining a complete response, an "on demand" dosing regimen was adopted.

#### **Results:**

We included three patients aged 60 (male, A), 70 (female, B), and 71 (female, C) years. Their baseline PASI scores were 19.8, 10.8, and 12.8, respectively. At 3–4 months of treatment, they achieved a PASI score of 0. After 27, 11, and 6 months of sustained response, dosing intervals were gradually extended. At 46, 22, and 10 months from treatment initiation, risankizumab was discontinued, with instructions for patients to return to the clinic if they noticed lesion recurrence. One patient (C) returned after 12 months, received another dose of risankizumab, and achieved lesion remission again, which was sustained for at least 6 months. The other two patients maintained a PASI score of 0 after 6 months of follow-up.

#### **Discussion:**

Despite being common practice, there is no robust evidence regarding when and how to reduce the dosage of biological treatments in well-controlled disease. Only two previous studies have analysed an " on demand " dosing regimen. This approach was used in patients with a good response after the first three doses of guselkumab (N=45) and risankizumab (N=64). In the guselkumab study, dosing intervals were extended to 11–27 weeks (73–30% of the standard dose), with no observed loss of efficacy compared to the 24 patients who followed the approved regimen. In the risankizumab study, doses were administered at a median interval of 32–37 weeks.

In line with this, other studies have reported similar efficacy upon reintroducing a biological treatment in patients with an initial good response who had previously discontinued therapy.

#### **Conclusion:**

In selected patients, an "on demand" dosing regimen may be appropriate for maintaining disease control, reducing hospital visits and pharmaceutical costs.







## Study the changes in some biochemical indicators in psoriasis patients as a marker of disease activity

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**Introduction & Objectives:** The elicitation of primary nature of biochemical shifts occurred at psoriatic disease and the prediction of interconnected subsequent changes in metabolic and inflammatory processes are important in predicting the dynamic development of pathological process and the choice of individual treatment.

The **study objective** is to assess disorders and correlations between main indicators of protein, fat, hydrocarbon and pigment metabolism and specifics of inflammatory processes in psoriatic patients against the clinical course of dermatosis.

**Materials & Methods:** We have analysed the results of clinical and laboratory examinations performed in respect of 62 psoriatic patients. All these patients have been analysed per their age, sex, prevalence and the type of skin rash as well as per the clinical disease form. Biochemical examinations have been conducted using appropriate sets of reagents. To establish the possible correlation between the indicators of biochemical blood analysis, we have calculated the correlation coefficient, which determines the nature of correlation between the studied variables.

**Results:** The analysis of results received upon examining psoriatic patients indicated that microbial-viral associations, stress factors and genetic predisposition were the most frequent trigger factors of psoriatic disease, which corresponds to the data from literary sources. We have registered that the psoriaric disease of duration up to 5 years was the most common, and relapses manifested in its limited form against the background of the disease advanced stage; the prevalent psoriasis was more common for the hospital stage.

Our study justifies that metabolic changes occurred in the overwhelming majority of examined patients of different age groups. At that, abnormalities of a number of indicators of protein, lipid, hydrocarbon and enzyme metabolism have been established. In addition, the expressiveness of corresponding changes correlated with the prevalence of skin psoriatic process and the duration of dermatosis course as well as the presence of pathology of a number of internal organs, in particular of gastrointestinal tract, hepatobiliary and cardiovascular systems, that suggest the presence of systemic disorders at psoriasis.

**Conclusion:** The establishment of independent mechanisms existing between some changes in metabolic process parameters at psoriasis has a theoretical and practical significance in dermatology, which involves the use of medications to regulate the established disorders, the possibility to restore correlations as it will inevitably contribute to the achievement of clinical and preventive effect.







## Study of certain immune-endocrine parameters in the pathogenesis of psoriatic arthritis

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**Introduction & Objectives:** Psoriasis is a life-long chronic autoimmune disease characterized by thick scaly skin lesions and often associated with severe arthritis. At the present stage, psoriasis is considered to be a systemic disease that affects not only skin but also joints of patients and is accompanied by possible development of typical comorbid states (cardiovascular pathology, chronic inflammatory intestinal canal diseases, and metabolic syndrome).

The objective of our work was to improve the diagnostics of AP patients taking into account some of the most important indicators of the immune-endocrine system and features of the disease course to specify their role in AP pathogenesis and to develop the system of integrated therapy of patients whose locomotor system is affected due to psoriasis.

**Materials & Methods:** A total of 178 AP patients have been systematically examined. We have examined AP patients with varying severity of process development, generalization and the severity of skin and osseous-articular apparatus damage, the presence of associated pathology. Additional instrumental studies, determination of biochemical, serological parameters and an assessment of stress-induced immune-endocrine system have been conducted in AP patients. The content of trigger cytokines (IL-1 $\beta$ , IL-8, IL-17, IL-22) in blood serum, stress hormones (ACTH, cortisol), cellular and humoral immunity condition (CD3 +, CD4 +, CD8 +, CD16 +, CD22 +, IgM and IgG levels) have been studied.

**Results:** The clinical course and characteristic features of AP instrumental tests are extremely versatile as well as the depth of their present study is insufficient. Regardless of the disease duration period, we have detected in blood serum of AP patients probable changes in concentrations of stress-response mediators (decreased parameters of cellular immunity (CD3+, CD4+, CD8+ of T-lymphocytes, CD22+ fraction of B-lymphocytes and compensatory increased CD16+ of T-cells, decreased parameters of cytokines – IL-1 $\beta$ , IL-8, IL- 17, IL-22, stress hormones – cortisol, immunoglobulins IgM, IgG, and CIC), which indicate tension of their stress-induced mechanisms even despite occasional clinical stabilization of skin and articular process.

We have offered and tested regiments to treat AP patients, which involve differential application within the integrated therapy of nonsteroidal anti-inflammatory medications (etoricoxib 30-60 mg 1 time daily / diclofenac 75 mg daily), disease-modifying medications (Sulfasalazine EH from 500 mg to 2 g daily / Methotrexate 7.5-10 mg/week), lyophilised dialysate of leukocytes.

**Conclusion:** The analysis of specific features of the AP clinical course and data of integrated studies allows identifying the probability of manifestation or persistence of the pathological psoriatic articular process. The improvement of AP patients diagnostics taking into account some of the most important indicators of the immune-endocrine system and specifics of the disease course contributed to the improved therapy and mended quality of life of patients.







## Autoimmune factor of psoriasis pathogenesis

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**Introduction & Objectives:** Endocrine disorders determine an important role of psoriasis pathogenesis. In particular, recently, there has been an increase in the level of thyropathies, which is associated with the deterioration of environmental conditions. Thyroid lesions are associated with both suppression and increased functional activity. In this regard, the study of autoantibodies to thyroperoxidase (TPO) and thyroglobulin (TG) in psoriasis patients seems very promising. The aim of the work is to investigate changes in the content of autoantibodies to TPO and TG in patients with psoriasis depending on the clinical course (form and stage) and duration of the disease.

**Materials & Methods:** We observed 34 psoriasis patients (19 men and 15 women) aged 21 to 62. The comparison group consisted of 19 healthy individuals matched for gender and age.

**Results:** In was found, that changes in the contents of autoantibodies to TPO and Tg are accented dependent on the clinical course of psoriasis and duration of the dermatosis.

**Conclusion:** It is shown that autoimmune processes are of certain importance in the pathogenesis of psoriasis. In the perspective of the already proven immunopathogenetic theory of psoriasis, in our opinion, further research into the correlation between the established autoimmune processes and the cytokine profile in patients with psoriasis, and accordingly, the possible association of these processes and their systemic role in the development of psoriasis, seems interesting.







## The role of emollients in the treatment of psoriasis

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**Introduction & Objectives:** Despite the large number proposed methods and means of treatment of patients with psoriasis, their effectiveness is not too high. The means and dosage forms of topical therapy depends usually on the clinical course pathological process. In recent years, both in the world and in Ukraine, NB UVB of psoriasis, because of its efficiency, safety and availability has become a technique of choice in the treatment of psoriasis patients with different clinical course. NB UVB therapy method is self-contained and can be used as monotherapy, but combination of emollient, in our view, adds treat certain advantages. The aim of our study was to examine and evaluate the effectiveness of this method phototherapy combination of emollient in the treatment of psoriasis.

**Materials & Methods:** The observation's been 36 patients with psoriasis vulgaris (17 women and 19 men). The age of patients ranged from 21 to 62 years. The disease duration ranged from 7 months to 29 years. Comparison group consisted of 18 patients with psoriasis. Procedures were 3-4 times per week. The initial dose was 0.1-0.25 J/cm² depending on the skin phototype. Each dose of this procedure increased to 0.05-0.1 J/cm². When erythema dose to remain preliminary. As a skin care patients of the main group of 1 to 3 times a day after the procedure, and in days without procedures used emollient that incorporates vaseline, glycerine complex and vitamin E. Patients comparison group treated with NB UVB as a monotherapy. For the purpose of verification of the severity of psoriasis and the effectiveness prescribed therapy was determined by PASI and DLQI before and after treatment.

**Results:** The analysis of the clinical efficacy of treatment of patients with psoriasis the main group (comparison group) allowed to witness the achievement of "clinical remission" in 19 people (8), "significant improvement" - 11 (6), "improvement" in 6 (4). Patients main group: PASI decreased to  $9.5\pm1.7$  (to treatment was  $22.8\pm3.1$ ; p < 0.05); comparison group:  $17.6\pm7.8$  (to treatment was  $24.9\pm8.4$ ; p < 0.05). Patients main group: DLQI decreased to  $6.1\pm0.5$  (to treatment was  $19.5\pm2.7$ ; p < 0.05); comparison group:  $17.1\pm3.0$  points (to treatment was -  $23.5\pm1.9$  points, p > 0.05).

**Conclusion:** Today, high efficiency, good tolerability and no severe side effects can recommend NB UVB as one of the most effective, safe and accessible in Ukraine treatment of psoriasis vulgaris with different clinical course. A combination of qualitative emollient can significantly improve treatment, reduce the time of treatment, which is especially important when using UV, improve skin condition in between exacerbations, reduce the severity of these exacerbations, and that is very important to continue remission.







## The effects of galectin-3 on epidermal thickness and red blood cell parameters in psoriasis

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**Introduction & Objectives:** Psoriasis is a chronic, immune-mediated inflammatory disease. It is primarily characterized by the skin lesions, but it also causes the systemic alterations. Galectin-3 (Gal3), a  $\beta$ -galactoside-binding lectin, plays an important role in immune regulation and tissue remodelling. However, its effects on haematopoiesis and psoriasis are still not completely clear. Therefore, this study aimed to examine the effect of galectin-3 on epidermal thickness and red blood cell (RBC) parameters in psoriasis.

**Materials & Methods:** Male C57BL/6 wild-type (WT) and Gal3-/- mice were assigned to four groups: WT control (WTC), Gal3-/- control (GKOC), WT-psoriasis (WTP) and Gal3-/- psoriasis (GKOP) groups. Psoriasis was induced by 7-day skin treatment with an imiquimod (IMQ), while control groups were treated with vehicle cream. Following treatment, animals were euthanized, and blood samples were collected for RBC analysis. Treated skin samples were excised, and processed for histological analysis and determination of epidermal thickness (ET).

**Results:** ET was significantly higher in WTP when compared to WTC, and in GKOP when compared to GKOC. In addition, ET was significantly higher in GKOP than in WTP. The number of RBC and hematocrit significantly decreased, while nucleated red blood cells (NRBCs) significantly increased in both psoriatic groups, WTP and GKOP, when compared to their control groups WTC and GKOC, respectively. Hemoglobin concentration (Hgb) significantly decreased in both psoriatic groups WTP and GKOP, when compared to WTC and GKOC, respectively. However, Hgb was significantly lower in WTP than in GKOP. Correlation analysis revealed a strong, statistically significant negative correlation between epidermal thickness and NRBCs in GKOP.

**Conclusion:** Our findings indicate that galectin-3 has the role in the alterations of epidermal thickness and RBC parameters in psoriasis.

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## **Excellent Response to Acitretin in an Infant with Severe Generalized Pustular Psoriasis**

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# **Introduction & Objectives:**

Infantile pustular psoriasis (IPP) is extremely rare. Early diagnosis and management is critical to avoid life-threatening complications. The treatment choice can be challenging, especially during infancy. Here, we report a case of a 3-month-old infant with IPP treated successfully with acitretin.

## **Materials & Methods:**

A 3-month-old girl was referred for an erythematous rash covered with scales and pustules over the whole body surface for 2 months. The girl was born at term to a healthy parents, with no family history of psoriasis and no consanguinity.

Clinical examination revealed generalized erythematous annular scaly plaques, with multiple peripheral pustules covering her face, trunk and extremities. She also had fever (38,5°C).

Successive blood tests revealed a persistently elevated white blood cell count (maximum, 21,000/mm3) and high C-reactive protein level (39,9 mg/L; normal  $\leq$  5.0). The remaining parameters were within normal limits. Bacterial cultures from pustules and blood were all negative. Skin biopsy showed psoriasiform dermatitis with neutrophils in the stratum corneum and a mild mononuclear infiltrate in the upper dermis. Regarding these findings, the diagnosis of IPP was established.

Emollients and topical corticosteroids were administered. However, fever with wide spread erythema and pustules relapsed again after 1 week of treatment. Acitretin was initiated at a dosing of 0.2 mg/kg/day (1 mg daily). We entrusted the pharmacist with the preparation of 0.5 mg capsules whom were diluted in 30 ml of breast milk. The patient's pustular psoriasis cleared over 10 days. Acitretin was continued at the same dose with regular monitoring for 3 months without relapse.

## **Results:**

Infantile pustular psoriasis is extremely rare among presentations of juvenile psoriasis, with one case review finding pustular psoriasis to account for only 9.8% of total psoriasis cases in patients < 2 years of age. However, early diagnosis and management of infantile cases is critical to avoid life-threatening complications, such as bacterial super-infection and sepsis.

The etiology of IPP remains unclear. Gene mutations of IL36RN, CARD14, and AP1S1 were identified to be involved in pathogenesis. Considering the child in our case had neither personal nor familial history of psoriasis and early onset of IPP, we highly suspect there may be genetic mutations contributing to IPP onset.

IPP presents a therapeutic challenge because to date, there has been no specific therapeutic guidance due to its rarity. Systemic acitretin has proved to be effective and can be used as first-line therapy for infants with pustular psoriasis. Although there is major concern about the risk of skeletal toxicity, studies have shown that IPP patients tend to respond remarkably fast and tolerate retinoid use well, with reports of patients as young as 4 weeks old successfully treated. Dosage range from 0.5-1.0 mg/kg/day, with tapering after 3-4 months of effective treatment. We chose to start with a low dose acitretin, planning to increase gradually in case of insufficient response. Ultimately, the patient responded very well

to this treatment dosage which was maintained.

# **Conclusion:**

We present a rare case of very early onset IPP who has responded excellently to acitretin. However, a safe and easily reproducible method for the proper use of acitretin in infants remains to be found.







The challenging course of psoriatic disease with multi-line biologic therapy and associated adverse events in a 70-year-old male: A case report

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# **Introduction & Objectives:**

Managing psoriatic disease in elderly patients with multiple comorbidities poses significant challenges. The complexity increases with the need for switching between biologic therapies, the risk of adverse reactions and treatment discontinuations. This case emphasizes the difficulties in managing refractory psoriatic disease, illustrating the risks and complications associated with multiline treatment strategies.

## **Case report:**

We present a case of refractory psoriatic disease in a 70-year-old male patient with multiple comorbidities and a history of treatment discontinuation. Initially diagnosed over a decade ago, the patient was treated with a combination of Infliximab and Methotrexate (MTX) achieving good disease control. However, self-discontinuation led to disease relapse. Subsequent treatments with Cyclosporine and Etanercept were also interrupted by the patient.

When the patient presented to our clinic, clinical evaluation demonstrated severe skin and joint involvement, with laboratory findings indicating chronic viral hepatitis (undetectable hepatitis B viral load), renal impairment and hypertension. It was decided to initiate treatment with Ixekizumab combined with MTX and this regimen was continued for over two years with good response.

Due to later loss of clinical efficacy, the therapy was switched to Bimekizumab. The patient's course was later complicated by the occurrence of two infections at different body sites, one of which was considered an adverse effect of Bimekizumab, ultimately leading to treatment cessation.

While the infectious complications resolved, disease activity persisted, leading to a switch to another biologic agent, Risankizumab. After two doses without significant clinical improvement, the patient was referred to rheumatology for reconsideration of MTX reintroduction alongside biologic therapy.

## **Conclusion:**

Despite advances in targeted therapies, this case highlights that effective management of psoriatic disease requires careful selection of therapeutic agents along with strict adherence, vigilant monitoring, and a multidisciplinary approach to optimize disease control while ensuring patient safety.







# unveiling gliclazide: a novel trigger for pustular psoriasis

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# **Introduction & Objectives:**

Psoriasis is a chronic inflammatory skin condition characterized by erythematous, well-defined lesions covered with scales. The exact causes are not fully understood, but immune system and genetic factors play a significant role. External factors like infections, stress, and certain medications can exacerbate the condition. This report discusses an unprecedented case of pustular psoriasis triggered by gliclazide.

## **Materials & Methods:**

#### **Results:**

A 68-year-old female with a history of scalp psoriasis and type 2 diabetes, previously treated with glimepiride for 8 years, was switched to gliclazide. Twenty days later, she developed a widespread pustular rash, with no fever but a general deterioration in her health. Physical examination revealed erythema covering 65% of her body surface, including her trunk, back, neck, upper limbs, thighs, and face, with pustules and psoriasiform scales. She also showed positive "candle-grease sign" and "Auspitz sign". The patient was hospitalized for assessment, and no electrolyte or visceral disturbances were found. A skin biopsy confirmed psoriasiform dermatitis, supporting a diagnosis of psoriasis. After eliminating other potential triggers, gliclazide was identified as the cause of the pustular flare given the temporal relationship between the medication switch and the eruption. Treatment involved topical corticosteroids and discontinuation of gliclazide, which led to immediate improvement of pustules and slow regression of erythema that persisted for weeks and resolved under methotrexate.

## **Conclusion:**

This case highlights gliclazide as a potential trigger for pustular psoriasis, expanding the list of medications associated with psoriasis. It emphasizes the importance of collaboration between clinicians and pharmacologists in identifying and confirming drug-induced reactions in patients with complex conditions like psoriasis.

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## nailed it: how nail involvement in psoriatic arthritis points to more severe outcomes

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# **Introduction & Objectives:**

Nail involvement has been considered a classic risk factor for arthritis development among psoriasis patients, being currently considered as a long-term risk factor for the joint condition. Apart from the known connection to the risk of psoriatic arthritis (PsA), the nail condition in psoriatic disease is not only relevant for the detection of PsA, but is also closely linked to a worse overall outcome.

Herein we present the case of a 61-year-old male who presented to us with an irreducible bilateral knee flessum and diffuse nail involvement, to increase awareness of this severe entity.

#### **Materials & Methods:**

#### **Results:**

We present the case of a 61-year-old man suffering from psoriasis for 26 years (cutaneous and nail involvement) treated by topical steroids, with worsening symptoms over the last year; He was wheelchair-bound then bed-bound for the last 6 months, and he presented to our hospital with pain and swelling in the knees and ankles, extensive skin lesions with occasional pain and itching sensation.

Examination revealed erythemato-squamous plaques all over the body, with positive candle-grease sign and Auspitz sign, multiple nail pits in both hands with distal onycholysis, splinter hemorrhage, longitudinal ridges and oil-drop discoloration along with distal and proximal subungueal hyperkeratosis of all the toenails. On articular examination, pain was localized to both knees and ankles. Movements of both joints were totally restricted in both active as well as passive ranges of motion.

Investigations showed an erythrocyte sedimentation rate of 78 mm/hour, C reactive protein of 56.9 mg/L and a negative rheumatoid factor.

Radiographs of the knees and feet joint were notable for bilateral flexion deformity of the knees and bilateral deviation of the proximal phalanges with metatarsophalangeal joint narrowing. A diagnosis of active PsA with peripheric disease was made, and he was started on Secukinumab and physical therapy with good evolution.

#### **Conclusion:**

Nail psoriasis is correlated with more severe disease, characterized by earlier onset and a higher risk of psoriatic arthritis which can result in significant functional impairment and reduced quality of life.

Although pitting of the nail plates is the most common form of nail involvement, subungual hyperkeratosis holds greater correlation to PsA. Clinically, psoriatic patients with fingernail onycholysis and hyperkeratosis should be assessed for arthritis during follow-up in order to diagnose it earlier and to avoid its severe progression, which was the case for our patient.







# Neurogenic inflammation as a key causative factor in stress-induced psoriasis reversed by aprepitant treatment

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# **Introduction & Objectives:**

Psychoemotional stress is suspected to trigger or exacerbate psoriasis, but robust preclinical models to study this in vivo are lacking.

This study evaluated whether perceived sonic stress promotes psoriasis development in a "humanized" mouse model and assess aprepitant, an NK-1R blocker of substance P signaling, as an anti-stress therapy.

#### **Materials & Methods:**

SCID/beige mice grafted with human skin underwent four experiments to study psoriatic lesion development and stress impact. Experiment 1 tested lesion reappearance and topical aprepitant under sonic stress after remission with dexamethasone. Experiment 2 examined stress-induced psoriasis onset with sonic stress post-PBMC injection, with controls and a betamethasone-treated group. Experiment 3 investigated neuroimmune pathways using CRHR1 blockers, ketotifen, NGF-neutralizing antibodies, or vehicles under stress. Skin grafts were analyzed nine days post-injection via IHC and FACS for inflammatory markers.

#### **Results:**

Exposing mice to sound stress accelerated psoriasis lesion development, exacerbating hallmark features such as Munro microabscesses, absence of the granular layer, epidermal hyperplasia, parakeratosis, elongation of rete ridges and increased angiogenesis (VEGF, MMP1). Psoriasis-specific markers, including ADAMTSL5, K16, IL-17A/F, IL-22, IL-36γ, S100A7, and ICAM1, were significantly upregulated, accompanied by heightened immune infiltration of CD3+, CD8+ T cells, plasmacytoid DCs, ILC3, and γδT cells. Immunohistochemical staining and FACS analysis revealed the presence of epidermal TRM cells (CD8+, CD69+, CD103+, and CD49a-), which were significantly increased in stress-exposed psoriasis lesions compared to controls Unlike other inflammatory skin diseases, such as atopic dermatitis, CCL27 expression was notably downregulated\*\* compared to the control, whereas NOS2 was significantly upregulated. Neurogenic inflammation was also evident, characterized by mast cell degranulation (tryptase, toluidine blue,\*\* Giemsa, Leder esterase, and c-KIT), NGF, NK-1R, Substance P, CGRP, TRPV-1, and IL-31. Moreover, stress exposure resulted in increased expression of\*\* HLA-DR, IFNγ, TNFα, CXCL10, IL-15, and IL-8, reinforcing the inflammatory response. DXA treatment achieved complete remission, yet lesions reappeared post-treatment unless co-treated with aprepitant. Additionally, perceived stress triggered disease onset, which betamethasone failed to prevent. NGF neutralization, CRHR1 blockade, and ketotifen mitigated stress-induced psoriasis, effectively reducing both inflammatory and neurogenic markers.

## **Conclusion:**

Our study conclusively documents that perceived stress can both exacerbate and re-trigger psoriasis lesions in human skin *in vivo* by inducing neurogenic skin inflammation. This can effectively be antagonized pharmacologically.

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## Factors associated with high psoriatic arthritis activity in patients with long-term follow-up

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**Introduction & Objectives:** Understanding the factors contributing to high psoriatic arthritis (PsA) activity after long-term follow-up is critical for optimizing treatment strategies and improving patient outcomes. The aim of the study is to evaluate factors associated with high PsA activity after 7 years (yrs) follow-up.

**Materials & Methods:** This study assessed 50 (M/F–26/24) PsA pts fulfilling CASPAR criteria. Mean age 43,5±12,4 yrs, median (Me) PsA duration 72 [65; 102] month (mos), Me psoriasis duration 144 [96; 264] mos. The time to PsA diagnosis from the onset of the first symptoms of peripheral arthritis 24 [4,5; 57,5] mos. During the current follow-up, all pts underwent standard rheumatologic clinical examination, including DAPSA activity index for PsA, assessment of skin psoriasis by BSA (%) and absence of nail psoriasis. These parameters were used to characterize the cohort and analyze the factors associated with high PsA activity after 7 yrs follow-up. M±SD, Me [Q25; Q75] were performed. The corresponding odd ratios (OR) were calculated with their confidence intervals (CI 95%). All p<0.05, were considered to indicate statistical significance.

**Results:** In pts with PsA duration of 7 yrs Me DAPSA score was 29.2 [13,2; 38], Me BSA - 1 [0,5; 7], and 60% of pts (n=30) had a mild psoriasis (BSA  $\leq$  3%), nail psoriasis found in 36 (72%) pts. High disease activity based on the DAPSA index was identified in 27 of 50 pts (54%) in the cohort. Among these, 16 pts (59,3%) showed inadequate response to their first csDMARD, with methotrexate (MTX) being the most commonly used (75%), followed by sulfasalazine (SSZ) in 4 cases (25%). Additionally, 11 pts (40,7%) had a delayed start to therapy, initiating treatment more than 24 mos after the first symptoms appeared. The main reasons for the late initiation of therapy in patients were delays in diagnosing PsA, as well as the late start of therapy by the patients themselves, despite the timely prescription of DMARDs. The analysis of the odds ratio for the association between late initiation of therapy in patients with PsA and DAPSA activity as well as skin involvement according to BSA showed that pts who started therapy late were more likely to have widespread psoriasis with BSA > 3% after 7 yrs (OR 6.000; 95% CI 1.351–26.649), as well as high PsA activity according to DAPSA (OR 32.758; 95% CI 1.801–595.674).

**Conclusion:** The findings of this study demonstrate that delayed initiation of therapy in PsA pts is significantly associated with worse long-term disease outcomes after 7 yrs. Pts with delayed treatment had markedly higher odds of elevated extensive skin psoriasis, and high disease activity according to DAPSA. These results emphasize the critical importance of early therapeutic intervention in PsA to prevent disease progression and improve long-term prognosis.







# The Impact of Biologic Therapy on T Memory Cells in Psoriasis Remission

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**Introduction & Objectives:** Psoriasis is a chronic immune-mediated skin condition driven by the dysregulated activation of T cells, particularly T memory cells, which are crucial in sustaining inflammation and promoting disease recurrence. The role of biologic therapies in modulating these immune cells is well-established, yet the duration required to achieve long-term remission remains uncertain. This case involves a patient with nearly 17 cumulative years of biologic treatment who initially experienced significant improvement with infliximab but relapsed upon treatment cessation. Remarkable clinical improvement followed a switch to tildrakizumab, a selective IL-23 inhibitor. This outcome raises the question of whether inducing psoriasis remission depends on the cumulative duration of biologic treatment or, more specifically, on receiving the most appropriate biologic medication for an extended period.

**Materials & Methods:** A 60-year-old female with psoriasis and psoriatic arthropathy diagnosed in 1986, confirmed histopathologically in 2009, presented with a severe clinical picture of widespread, erythematous plaques with silvery-white scaling. She had a history of dyslipidemia, hypercholesterolemia, and a total hysterectomy due to uterine fibroma. Previous therapies included PUVA sessions, systemic treatment with acitretin, methotrexate and multiple topical agents, all with suboptimal responses. Infliximab therapy was initiated in 2008 at a regimen of five intravenous flacons per session with premedication, providing substantial improvement in skin and joint symptoms for nearly 16 years.

However, infliximab was discontinued for 5 months due to major abdominal surgery. During this hiatus, psoriasis lesions rapidly reappeared with significant flare-ups and worsening arthropathy, highlighting infliximab's inability to sustain remission post-discontinuation. In January 2024, tildrakizumab 100 mg was administered at weeks 0, 4, and every 12 weeks thereafter.

**Results:** Response to tildrakizumab was prompt, with near-total clearance of skin lesions and significant improvement in joint symptoms within months. Tildrakizumab emerged as the cornerstone of her current management, offering new hope for prolonged control.

**Conclusion:** The profound clinical response to tildrakizumab in this long-standing case of psoriasis and psoriatic arthropathy suggests its potential in silencing T memory cells and inducing sustained remission. While current evidence remains limited, this case underscores the need for long-term studies to elucidate tildrakizumab's full role in disease remission. This case highlights the importance of evaluating whether psoriasis remission is primarily influenced by the cumulative duration of biologic therapy or the prolonged use of the most effective biologic agent for the patient.







Deucravacitinib, an oral, selective tyrosine kinase 2 (TYK2) inhibitor, in patients with moderate to severe scalp psoriasis: 52-week efficacy and safety results of a phase 3b/4, multicenter, randomized, double-blinded, placebo-controlled trial (PSORIATYK SCALP)

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# **Introduction & Objectives:**

Deucravacitinib, an oral, selective, allosteric TYK2 inhibitor, is approved in multiple countries for adults with moderate to severe plaque psoriasis who are candidates for systemic therapy. Scalp psoriasis affects ~80% of patients; is associated with itching, flaking, pain, and bleeding; disproportionately reduces quality of life; and is challenging to treat with topical agents. A phase 3b/4, double-blinded trial (PSORIATYK SCALP) demonstrated that deucravacitinib was superior to placebo at Week 16 and was well tolerated in patients with moderate to severe scalp psoriasis, including those with more limited overall psoriasis (patient group who are candidates for systemic therapy according to AAD/NPF and IPC guidelines). Here, we report the efficacy and safety of deucravacitinib through Week 52.

## **Materials & Methods:**

Adults ( $\geq$ 18 years) with moderate to severe scalp psoriasis (baseline ss-PGA  $\geq$ 3, scalp surface area involvement  $\geq$ 20%, PSSI  $\geq$ 12) and BSA involvement  $\geq$ 3% were randomized 1:2 to placebo or deucravacitinib 6 mg once daily. At Week 16, all patients received open-label deucravacitinib through Week 52. The primary efficacy outcome was ss-PGA 0/1; key secondary outcomes were PSSI 90, change from baseline in scalp-specific itch NRS, and sPGA 0/1 at Week 16. Efficacy was evaluated through Week 52 in the overall population and in the subpopulation with sPGA  $\geq$ 3. Nonresponder imputation and modified baseline observation carried forward were used for missing data for binary or continuous outcomes, respectively.

## **Results:**

In total, 154 patients were randomized (deucravacitinib, n=103; placebo, n=51). Of these, 94 patients continued deucravacitinib and 45 switched from placebo to deucravacitinib at Week 16. Baseline characteristics were similar between groups. In the overall population, Week 16 responses were maintained or improved at Weeks 24 and 52 in patients receiving continuous deucravacitinib (ss-PGA 0/1: 48.5%, 53.4%, 50.5%; PSSI 90: 38.8%, 39.8%, 47.6%; mean change from baseline in scalp-specific itch NRS: -3.2, -3.7, -3.4, respectively). sPGA 0/1 responses were maintained at Weeks 24 and 52 (46.9% and 47.9%, respectively) in the subpopulation with baseline sPGA  $\geq$ 3. Patients who crossed over from placebo to deucravacitinib at Week 16 achieved comparable responses at Week 52 as the continuous deucravacitinib group. The most common AEs in patients receiving  $\geq$ 1 deucravacitinib dose ( $\geq$ 5%) were nasopharyngitis (27.0%), COVID-19 (14.9%), upper respiratory tract infection (14.2%), acne (7.4%), headache (7.4%), pustular acne (6.1%), and oral herpes (5.4%). Five

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serious AEs were reported (myocardial infarction, meniscus injury, ligament disorder, colorectal adenocarcinoma, and pulmonary embolism). One death was reported due to myocardial infarction.

## **Conclusion:**

In this scalp-specific trial, deucravacitinib was efficacious and well tolerated through Week 52 in patients with moderate to severe scalp psoriasis, including those with more limited overall psoriasis (BSA involvement ≥3%). Clinical and patient-reported responses at Week 16 were maintained through Week 52 in patients receiving continuous deucravacitinib. Patients who crossed over from placebo to deucravacitinib achieved comparable responses at Week 52 as compared to those receiving continuous deucravacitinib. No new safety signals were observed. These results support the use of oncedaily oral deucravacitinib in moderate to severe scalp psoriasis.







## Long-pulsed Nd: YAG laser treatment of nail psoriasis: clinical and ultrasonographic assessment

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## Introduction:

Nail psoriasis is a chronic, inflammatory condition which is difficult to treat, linked with greater psoriasis severity, and may be associated with anxiety and significant functional impairment of the quality of life. The 1064nm Nd:YAG laser\*\* was reported to yield satisfactory results in the treatment of nail psoriasis.

## **Objectives:**

To assess the clinical and ultrasonographic efficacy of long-pulsed 1064nm Nd:YAG laser in the treatment of fingernail psoriasis and compare its effect to control fingernails.

#### **Materials & Methods:**

This intra-patient randomized controlled trial analyzed 86 fingernails collected from 13 patients suffering from cutaneous and nail psoriasis. The nails were randomized into two groups. Group A was treated with Nd:YAG laser once monthly for three sessions while group B served as control. Assessment took place at baseline, 1 and 3 months after the last treatment session. For scoring, the 32-points target NAPSI scoring systems was used. Additionally, two blinded dermatologists' score of improvement, patients' pain assessment by visual analogue score and ultrasonographic assessment were all performed.

## **Results:**

At the end of follow up, the medians of tNAPSI score, plate definition, matrix thickness, bed thickness and bed vascularity decreased significantly in the Nd:YAG laser treated group in comparison to baseline (p=0.001, 0.006, 0.039, <0.001 and 0.010, respectively). While, there was a non-significant reduction in median tNAPSI score in the control group at last follow up, however, ultrasonography recorded a significant reduction in the medians of plate definition, bed thickness and vascularity (p=0.002, 0.011 and 0.033, respectively) from the baseline. Comparison of the Nd:YAG laser and the control groups showed no significant difference from baseline regarding the medians of tNAPSI, tNAPSI percentile improvement, pits count, blinded evaluation of photographs and ultrasonographic assessments.

## **Conclusion:**

Nd:YAG laser showed clinical and ultrasonographic improvement in fingernail psoriasis. Ultrasonography is a useful noninvasive tool in diagnosing and monitoring the clinical and even the subclinical changes in nail psoriasis. Nail psoriasis although difficult to treat, may show spontaneous improvement.







Topical ruxolitinib 1.5% cream leads to rapid improvement of pustular skin lesions of generalized pustular psoriasis (GPP) compared to control: a case report

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**Introduction & Objectives:** Topical Janus Kinase (JAK) inhibitors are small molecules targeting the JAK-STAT signaling pathway, responsible for immune response and cell proliferation and have potential novel therapeutics for skin diseases with minimal adverse effects. Ruxolitinib is a selective JAK-1 and -2 inhibitor which in its topical form is already approved for the treatment of non-segmental vitiligo.

Materials & Methods: An 81-year-old female patient with no former history of skin disease presents with a disseminated pustular eruption, which was resistant to a regimen of systemic corticosteroid treatment at 0.5 mg/kg/d for the last 3 weeks. Efforts of tapering systemic steroids were followed by rapid disease relapse. Through patient history, course of disease and histologic findings the diagnosis of generalized pustular psoriasis (GPP) was made. A sizable, symmetric, highly pustular lesion was selected and treated half with Ruxolitinib 1,5% (RXL) cream and half with a common moisturizer cream. Photographic clinical documentation was done at baseline (day 1) and days 2, 3, 5 and 8 after treatment initiation. Examination with Optical Coherence Tomography (OCT) was performed at day 3 (greatest clinical difference between RXL vs control.) A systemic treatment with Acitretin and Secukinumab were eventually initiated leading to overall disease control and effective tapering of systemic steroids.

**Results:** The part of the lesion treated with RXL showed a rapid clinical response, especially in the first 3 days following treatment in comparison to control. Then clinical outcome plateaued and around the 7-day mark, no significant difference was observed. Interestingly, imaging with OCT failed to illustrate the clinically observed marked difference at day 3, indicating only a negligible slimming of the epidermis in comparison.

**Conclusion:** GPP is a severe inflammatory skin disease distinct from psoriasis vulgaris but sharing key immunopathogenic pathways, including the IL-17 and JAK-STAT signaling cascades. While its severity usually necessitates a systemic treatment response, our findings of successful topical treatment on systemic steroid-resistant lesions could be considered in similar forms of limited skin disease (e. g. steroid-resistant palmoplantar psoriasis). Moreover, sterile pustules can be found in most forms of psoriasis, including Psoriasis vulgaris and are indicative of highly inflammatory skin activity.

Topical JAK inhibitors could be an alternative treatment modality for steroid-resistant, highly active pustular psoriasis lesions, although cost-wise, this might be more suitable for limited forms of disease.







## Scalp pain characteristics and related factors in patients with scalp psoriasis

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# **Introduction & Objectives:**

Psoriasis is a chronic inflammatory skin disease affecting 2–3% of the global population. While erythema, scaling, and pruritus are well-recognized features, pain remains an underappreciated yet prevalent symptom. Chronic inflammation is hypothesized to sensitize nociceptive fibers, contributing to various pain sensations. Scalp psoriasis poses unique challenges due to its anatomical location, potentially exacerbating pain perception. However, research on psoriasis-related pain has primarily focused on pruritus, with limited data on scalp pain characteristics. Understanding this symptom is essential for optimizing patient management. This study aims to characterize scalp pain in psoriasis and evaluate its association with epidemiological and clinical factors, including disease severity and pain threshold.

#### **Materials & Methods:**

A cross-sectional descriptive study was conducted on 107 patients with scalp psoriasis from October 2024 to January 2025. Data on epidemiological characteristics, clinical features, and disease severity were collected. Scalp pain was assessed through direct interviews using the Pain Quality Assessment Scale (PQAS), and pain threshold was measured using a digital pressure algometer.

## **Results:**

A total of 63.6% of patients with scalp psoriasis experienced scalp pain, with a mean pain intensity of  $5.2 \pm 2.1$ . Scalp pain was significantly associated with disease severity, as measured by the Psoriasis Area and Severity Index (PASI), Scalp Physician Global Assessment (SPGA), and Psoriasis Scalp Severity Index (PSSI). Patients with higher PASI or PSSI scores tended to experience more severe pain (p < 0.001). Common pain characteristics included discomfort (97.1%), itching (94.1%), surface pain (94.1%), tingling (92.7%), and diffuse pain (92.7%).

Scalp pain significantly impacted patients' quality of life, particularly affecting mood (97.1%), daily activities (91.2%), enjoyment of life (86.8%), and sleep (85.3%). Comparison of pain thresholds across different skin regions revealed that the pain threshold at the lesional and perilesional sites was significantly lower than that of healthy skin controls (p < 0.01). When stratified by SPGA, patients with more severe lesions exhibited lower pain thresholds (p < 0.05). Similarly, patients with a PSSI >10 showed a marked reduction in pain threshold (p < 0.05), indicating that the severity of psoriatic lesions may contribute to increased pain sensitivity.

## **Conclusion:**

Scalp pain is a common symptom in patients with scalp psoriasis, closely associated with disease severity and significantly affecting quality of life. Proper assessment and management of scalp pain should be emphasized in psoriasis treatment to improve patient outcomes and overall well-being.





Aiming for the Bullseye in Real-World Psoriasis Management: Introduction of a Digital Psoriasis Dartboard and focus on Cross Sectional DLQI data.

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# **Introduction & Objectives:**

Psoriasis management is complex and requires both objective and subjective assessment. To enhance the latter, we send digital questionnaires, including the Dermatology Life Quality Index (DLQI), to patients before their visit. The results are visualized in a newly developed Digital Psoriasis Dartboard (Figure 1).

This project analyzes DLQI scores in a cross-sectional group of psoriasis patients at UZ Leuven, exploring variations by gender and age. We will also identify outlier responses to highlight areas where psoriasis significantly impacts daily life and evaluate the relevance of specific questions. Findings may improve patient management by identifying key factors affecting quality of life (QoL) across different demographic groups.

# **Materials & Methods:**

A total of 665 psoriasis patients were invited to fill out the online DLQI between October 16, 2023, and January 16, 2025. Scores were categorized as follows: 0-1 is considered no impact, 2-5 small impact, 6-10 moderate impact, 11-20 very high impact, and 21-30 extremely high impact on QoL. Responses indicated as 'not relevant', which is possible for 8/10 questions, were scored 0. If one response was missing, it was replaced by the patient's average score on the remaining items (n=1). Questionnaires with  $\geq$ 2 missing responses were excluded (n=8), resulting in a final dataset of 663 patients.

## **Results:**

404 patients (61%) completed the DLQI at least once, of whom 229 at multiple timepoints, yielding 757 completed questionnaires. The mean age was 51  $\pm$ 16 years, and 59% were men. The mean DLQI total score was 7.1  $\pm$ 0.3, ranging from 0 to 29. 18% of the questionnaires indicated no impact on QoL (DLQI= 0). Since DLQI total scores were not normally distributed and multiple assessments were available per patient, a Generalized Estimating Equations (GEE) model was performed to assess the effect of age and gender. Males had significantly lower DLQI scores than females (B= -1.794, p= 0.009), and older age was associated with lower DLQI scores (B= -0.051, p= 0.012). Next, age and gender were included as covariates in the final model, to which timepoint, representing the number of assessments per patient, was added as a within-subject effect and independent variable. The findings indicated a decrease in DLQI score, i.e., improvement of QoL, over time (B= -0.749, p= 0.006).

## **Conclusion:**

This study provides real-world longitudinal insights into QoL of psoriasis patients. DLQI scores indicate moderate impairment, with younger patients and females experiencing greater impact. Over time, QoL improves, suggesting potential benefits on continued care. Future research will examine the relevance of individual DLQI questions and correlate

findings with other questionnaires.

Figure 1:









# Safety Profile and Clinical Course of a Patient with Active Breast Cancer Undergoing Oncologic Treatment and Treated with Tildrakizumab for Severe Plaque Psoriasis

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## **Introduction & Objectives:**

Psoriasis is a chronic, immune-mediated systemic disease with genetic implications and is often associated with multiple comorbidities. The presence of malignancy in patients with psoriasis can significantly challenge the selection of an appropriate biologic therapy. The coexistence of malignancy and psoriasis significantly impacts the patient's quality of life and raises concerns about the safety and efficacy of biologic treatments. Oncologic treatments are often aggressive, with potential drug interactions, metabolic disturbances and significant adverse effects. To date, no studies or case reports have documented the concomitant use of trastuzumab, an agent used for invasive breast cancer and tildrakizumab, a humanized IgG1 monoclonal antibody targeting interleukin-23 p19, approved for moderate-to-severe psoriasis. We aimed to evaluate the clinical course of a patient with a solid malignancy undergoing concomitant treatment with tildrakizumab, trastuzumab, cyclophosphamide, epirubicin and docetaxel.

## **Materials & Methods:**

We present the case of a 56-year-old female patient from an urban area, diagnosed with severe plaque psoriasis refractory to prior biologic therapy with etanercept and ixekizumab. The patient was receiving oncologic treatment for HER2-positive invasive breast cancer, consisting of trastuzumab, epirubicin, cyclophosphamide, and docetaxel. At baseline, dermatologic severity scores were PASI=26.5, PSSI=50, PGA=3 and DLQI=20. Due to the significant burden of psoriasis and concurrent malignancy on the patient's quality of life, selecting a biologic therapy with an optimal safety profile was a priority. In collaboration with the oncology team, tildrakizumab was initiated due to its favorable safety profile, lack of significant drug interactions and lower risk of infectious complications.

# Results:

After five months of treatment, the patient's psoriasis severity scores improved significantly: PASI=4.7, PSSI=10, PGA=1 and DLQI=8. Regular blood tests were conducted during the concomitant oncologic and biologic therapy to monitor for potential hematologic or metabolic abnormalities, with no serious adverse events recorded. The patient successfully completed oncologic treatment and remains on tildrakizumab monotherapy for psoriasis management.

# **Conclusion:**

IL-23 inhibitors, acting as immunomodulators rather than immunosuppressants, provided a safe therapeutic option in our patient, with a lower infectious risk, even in the context of concurrent malignancy and oncologic treatment. From a dermatologic standpoint, tildrakizumab demonstrated favorable efficacy and was well tolerated, with no treatment-related adverse events during therapy.







## Epidemiological and clinical characteristics and quality of life in patients with scalp psoriasis

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# **Introduction & Objectives:**

Psoriasis is a chronic systemic inflammatory condition with a prevalence ranging from 0.3% to 0.6% of the population, affecting approximately 125 million people worldwide. The scalp is often the first affected area, with up to 80% of psoriasis patients presenting with scalp lesions. Scalp psoriasis is characterized by thick erythematous plaques with silvery-white scales, confined to the scalp or extending to the hairline. This manifestation significantly affects the quality of life due to the difficulty in treatment, as well as symptoms such as pain, itching, and bleeding, which cause distress and discomfort to patients. Despite the limited extent of lesions, symptom severity can be disproportionately high compared to clinical findings. Therefore, a study specifically enrolling psoriasis patients with scalp involvement is necessary to gain a better understanding of the epidemiological, clinical, and quality-of-life characteristics of these patients, thereby improving the effectiveness of interventions and patient care.

### **Materials & Methods:**

A descriptive case series study was conducted on 96 patients diagnosed with scalp psoriasis based on clinical examination by a dermatologist and/or histopathological findings consistent with psoriasis, aged 18 years or older and have no history of psychiatric disorders or currently using psychotropic medications from September 2024 to January 2025. Epidemiological factors, clinical characteristics, disease severity, DLQI (Dermatology Life Quality Index) and Scalpdex scores was assessed. We compared Scalpdex scores among different epidemiological and clinical factor groups using the Mann-Whitney and Kruskal-Wallis tests. Additionally, the correlation between Scalpdex scores and disease severity based on BSA (Body Surface Area), PASI (Psoriasis Area Severity Index), PSSI (Psoriasis Scalp Severity Index) and DLQI (Dermatology Life Quality Index) was analyzed using Spearman's correlation.

### **Results:**

The most common initial site of onset was the scalp, accounting for 46.9%, with the two predominant clinical forms being plaque-type and fine scaling-type. Nail involvement was observed in 75% of patients with scalp psoriasis. Topical treatment was the most common therapeutic approach (76%), with the most frequently used regimen being corticosteroids combined with vitamin D analogs (66.7%). Quality of life impairment, as assessed by the Scalpdex score, was higher among females, outdoor workers, individuals residing outside the city, patients with cone-shaped scalp psoriasis, and those with lesions in difficult-to-treat areas. Patients receiving biologic therapy had a better quality of life. Disease severity, as measured by BSA, PASI and PSSI showed a positive correlation with quality of life impairment based on Scalpdex.

## **Conclusion:**

The scalp is the most common initial site of onset in patients with psoriasis, significantly impacting quality of life in correlation with disease severity. Factors associated with quality of life impairment include female gender, occupation, place of residence, clinical type of scalp psoriasis, lesion location, and treatment modality.







Topical ruxolitinib 1,5 % cream leads to rapid improvement of pustular psoriasis skin lesions compared to control: a case series of two patients

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# **Introduction & Objectives:**

Topical Janus Kinase (JAK) inhibitors are small molecules targeting the JAK-STAT signaling pathway, responsible for immune response and cell proliferation and have potential as novel therapeutics for skin diseases with minimal adverse effects. Ruxolitinib is a selective JAK-1 and -2 inhibitor which in its topical form is already approved for the treatment of non-segmental vitiligo. Upadacitinib, an oral highly selective JAK1 inhibitor, has already been approved for Psoriatic Arthritis treatment. We treated pustular lesions with topical Ruxolitinib 1.5% cream (RXL) in two patients with pustular psoriasis. The aim was to evaluate its efficacy both clinically and with the use of Optical Coherence Tomography (OCT).

#### **Materials & Methods:**

**Case 1**: An 81-year-old female patient with no former history of skin disease presents with a disseminated pustular eruption, which had been resistant to a regimen of systemic corticosteroid treatment at 0.5 mg/kg/day for the last 3 weeks. Efforts to taper systemic steroids were followed by rapid disease relapse. Through patient history, course of disease and histologic findings, the diagnosis of generalised pustular psoriasis (GPP) was made. A sizable, symmetric, highly pustular lesion was selected and treated half with RXL and half with a common moisturiser cream.

**Case 2**: A 56-year-old man with a recent diagnosis of Psoriasis vulgaris con pustulatione 7 months prior, under systemic treatment with Apremilast, presents with a suberythrodermic pustular exacerbation. One pustular lesion on the left leg was chosen and treated half with RXL and half with a control moisturiser cream.

## **Results:**

In both cases lesions treated with RXL showed a rapid clinical response in comparison to control. In the first case clinical outcome plateaued and around the 7-day mark, no significant difference was observed. OCT revealed a slimmer epidermis with less pronounced infiltration.

## **Conclusion:**

Sterile pustules can be found in most forms of psoriasis, including psoriasis vulgaris and are indicative of highly inflammatory skin activity. GPP is a severe inflammatory skin disease distinct from psoriasis vulgaris but sharing key immunopathogenic pathways, including the IL-17 and JAK-STAT signaling cascades. While in the case of GPP, its severity usually necessitates a systemic treatment response, our findings of successful topical treatment of such pustular lesions could be considered in similar forms of limited skin disease (e. g. pustular palmoplantar psoriasis, PPPP) where its application would be more cost-effective.







## **Exacerbation of Skin Manifestations Due to Oncological Treatments: Pustular Psoriasis**

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**Introduction** Immunotherapies and targeted therapies have significantly transformed the therapeutic landscape in oncology, providing substantial advancements in tumor control. However, these treatments are frequently accompanied by cutaneous adverse events (CAE), ranging from nonspecific maculopapular rashes and lichenoid dermatitis to more complex autoimmune conditions such as psoriasis or bullous pemphigoid. These toxicities not only compromise patients' quality of life but may also impact treatment adherence and the continuity of oncological care. In this context, early recognition, accurate differential diagnosis, and the implementation of appropriate therapeutic management are essential for maintaining the efficacy of cancer treatments and avoiding unnecessary adjustments that could negatively affect the patient's overall prognosis.

Case Report We report a case of disseminated pustular psoriasis that appeared in a patient known with hepatocellular carcinoma under treatment with atezolizumab. Additionally, the patient has a longstanding history of vulgar psoriasis and nail psoriasis, as well as psoriatic arthritis, diagnosed in 2015, and had never had the pustular form. Four months after the initiation of treatment with atezolizumab, the oncologist observed an exacerbation of the pre-existing psoriatic lesions, with the emergence of pustular lesions that rapidly extended. In our clinic, the patient received treatment with diuretics, antihistamines, topical antifungals, dermatocorticoids, keratolytics, and topical antibiotics. The oncologist temporarily stopped atezolizumab.

**Conclusion** Given the significant impact of cutaneous toxicities on both treatment adherence and the effectiveness of oncological therapies, an interdisciplinary approach between dermatologists and oncologists is crucial. A thorough clinical assessment, supplemented by histopathological diagnosis when necessary, ensures optimal management of these reactions, facilitating uninterrupted treatment. Through close collaboration and the application of evidence-based clinical guidelines, we can significantly enhance both patient quality of life and long-term oncological outcomes.

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# A Single Arm, Multi-Centric, Phase III Study to Evaluate Efficacy, Safety and Immunogenicity of Tildrakizumab in Indian Patients With Moderate-to-Severe Plaque Psoriasis

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**Introduction & objectives:** Interleukin-23 (IL-23) is a naturally occurring cytokine that is involved in inflammatory and immune responses. Tildrakizumab is a high-affinity, humanized immunoglobulin G1/k (IgG1/κ) antibody that specifically binds to p19 subunit of IL-23 and inhibits further interaction with the IL-23 receptor. Tildrakizumab inhibits the release of proinflammatory cytokines and chemokines. Tildrakizumab is approved globally for treatment of moderate-to-severe plaque psoriasis. This study aimed to assess the evaluate efficacy, safety and immunogenicity of tildrakizumab in Indian patients with moderate-to-severe plaque psoriasis.

Materials and Methods: In this single-arm, prospective, multi-centric, phase III study, 115 patients with moderate-to-severe plaque psoriasis with a duration of at least 6 months, body surface area (BSA) involvement ≥10% and <50%, psoriasis area and severity index (PASI) score ≥12, and physician's global assessment (PGA) score ≥3, were enrolled. Primary endpoint was PASI 75 response (Week 12). Secondary efficacy endpoints (assessed over 28 Weeks) were PASI 75 response, PASI 90 response, PGA response rate, change from baseline in PASI score and Dermatology Life Quality Index (DLQI) score, proportion of patients achieving PASI scores <5, <3, and <1, proportion of patients with anti-drug antibodies (ADA) and neutralizing antibodies (NAb), and adverse events (AEs) assessment. [Clinical Trial Registry – India, registration number (CTRI/2023/06/053784)].

**Results:** Majority of patients were male (80.9%). Mean age was 42.45 years and mean BMI was 26.08 kg/m2. Mean duration of plaque psoriasis was 88.40 months. Overall, 62.3% patients achieved PASI 75 response at Week 12, with PASI

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75 response rate further improving at Week 16 (83.3%) and Week 28 (93.9%). PASI 90 Response rate at Weeks 12, 16 and 28 was 26.3%, 50% & 78.1%, respectively. Corresponding PGA response rate was 63.2%, 85.1% & 91.2%, respectively. Mean  $\pm$  SD change from baseline in DLQI score was  $10.6 \pm 7.65$ ,  $12.1 \pm 7.45$  and  $-13.2 \pm 7.43$  [p<0.0001, at all visits]. Statistically significant reductions were seen (p<0.0001 at all visits) for absolute and percentage change in PASI score. Proportion of patients who achieved PASI scores <5, <3, and <1 at Week 28 were 91.2%, 86.8%, 61.4%, respectively. Of 113 eligible patients at Visit 6, 8 (7.1%) patients were found to be ADA positive, and of these 8 patients, 4 (3.5%) patients were also found to be NAb positive. Overall, 57 treatment-emergent AEs (TEAEs) were reported in 30 (26.3%) patients. Most commonly observed TEAEs were pyrexia (10.5%), nasopharyngitis (7.0%), pruritus (4.4%) and headache (4.4%). Overall, 56 TEAEs were mild in nature, one was of moderate intensity and was classified as serious adverse event of acute myocardial infarction (assessed as not related to study drug)'. No clinically significant change in vital signs, laboratory parameters, ECG, and physical examination was observed.

**Conclusions:** Treatment with tildrakizumab 100 mg injection resulted in a significant improvement in skin lesions and quality of life in Indian patients with moderate-to-severe plaque psoriasis and was well tolerated during study period.

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# Comparative Efficacy and Safety of Biological Agents as the Primary Therapy in People with Psoriasis: An Indirect Treatment Comparison Using a Bayesian Network Meta-Analysis

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# **Introduction & Objectives:**

Plaque psoriasis is a chronic, immune-mediated inflammatory disease that primarily affects the skin and may also involve systemic abnormalities. Studies revealed that it significantly impacts patients' physical and psychological well-being, often leading to a reduced quality of life. Over the years, immunomodulators have transformed psoriasis management by targeting specific inflammatory pathways. However, despite the availability of multiple biologics, there remains a lack of direct head-to-head comparisons, making it challenging for clinicians to determine the optimal treatment choice. This study addresses this gap by evaluating the comparative efficacy and safety of different biological agents using a Bayesian network meta-analysis.

#### **Materials & Methods:**

A systematic literature search was conducted in PubMed, Scopus, Proquest, Cochrane, and ScienceDirect. The risk of bias assessment utilized the ROB-2 tool. Network meta-analysis was performed using meta-insight.

## **Results:**

This study analyzed data from 22 studies, including 11,177 patients, with a study quality assessment indicating a low risk of bias. The results showed that Secukinumab 300 mg was the most effective drug for achieving Psoriasis Area and Severity Index (PASI) 75 (OR = 76.65; 95% CI = 17.78 to 330.35) and PASI 100 (OR = 67.31; 95% CI = 14.43 to 313.92). In terms of the Dermatology Life Quality Index (DLQI), Infliximab 5 mg/kg had the highest score (MD = -3.27; 95% CI = -8.85 to 2.47). Regarding the risk of adverse events (AE), Adalimumab 40 mg + loading dose was associated with a significantly lower risk (OR = 0.831; 95% CI = 0.378 to 1.93), while Infliximab 3 mg/kg showed the best treatment choice with minimal serious AEs (OR = 0.431; 95% CI = 0.0655 to 2.52).

## **Conclusion:**

In conclusion, Secukinumab 300 mg demonstrates the highest efficacy in achieving PASI 75 and PASI 100 scores in patients with plaque psoriasis. Infliximab 5 mg/kg improves dermatology-related quality of life, while Adalimumab 40 mg with 80mg loading dose presents the lowest risk of adverse events. Additionally, serious adverse events are least prevalent with Infliximab 3 mg/kg. These findings provide a comprehensive comparative assessment of biological therapies, highlighting their differential benefits in psoriasis management. Further studies should explore long-term safety and real-world effectiveness to validate these results.

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## Real-world efficacy of risankizumab for scalp psoriasis over a period of 24 months

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**Introduction & Objectives:** Scalp involvement is seen in a significant number of patients with psoriasis and is a major cause of social and emotional distress. Despite the high frequency of scalp involvement, the successful management of scalp psoriasis can be very challenging mostly because of the difficulties that arise from the chronic application of topical agents along with the disease's refractory nature. The emergence of biological agents and the blockade of the interleukin-23 (IL-23) pathway seem to have improved outcomes in those patients in the recent years, mostly according to data extracted from randomized controlled trials (RCTs). Real-world, long-term studies focusing on novel agents, such as risankizumab, for the treatment of scalp psoriasis are limited. The aim of this study was to provide real-world results of the use of IL-23 inhibitor risankizumab in patients suffering from scalp psoriasis over a period of 24 months.

**Materials & Methods:** We retrospectively reviewed all medical records of patients with moderate-to-severe plaque psoriasis who received at least one dose of risankizumab in the standard scheme. Eligible for this study were patients with active scalp disease at the time of risankizumab initiation. To assess disease severity, we utilized the psoriasis scalp severity index (PSSI) which was calculated at baseline and each subsequent visit.

**Results:** In total, we identified 211 patients that started treatment with risankizumab in our department and included 56 (39 males, 17 females) patients that suffered from active scalp psoriasis at the time of treatment initiation. The mean (SD) disease duration was 19 (12.8) years, and the mean (SD) BMI was 30.36 (5.67) kg/m2. Thirty-six (64.3%) patients suffered from at least one medical comorbidity. Twelve (21.4%) suffered from concomitant psoriatic arthritis. Twenty (35.7%) patients had been treated with more than two biological agents and 29 (51.8%) were bio-naïve. At baseline, the mean (SD) PSSI was 11.68 (8.79), which reduced to 0.56/0.23/0.91/0.97/0.36 at weeks 12/24/52/78/104 respectively. After 12 weeks of treatment, the PSSI75/90/100 responses were achieved by 85.4/83.3/83.3% of the evaluated patients, after 24 weeks by 91.5/91.5/91.5% and after 52 weeks by 88.9/80/80% of the patients (as observed analysis). At 104 weeks, 89.3% of the evaluated patients had achieved complete scalp clearance (PSSI100). The mean follow-up duration for this cohort was 20.88 months, during which, five (8.9%) patients discontinued medication (2 due to worsening arthritis, 2 due to secondary skin failure, 1 due to primary skin failure). No patient discontinued due to adverse events and no serious adverse events were reported.

**Conclusion:** Our study findings align with data from RCTs and suggest that risankizumab is a highly effective option for the management of moderate-to-severe plaque psoriasis with scalp involvement. Our study is mainly limited by its small sample size and its retrospective design.







## Real-world Prevalence and Associated Factors of Migraine in Patients with Psoriasis

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# Title: Real-world Prevalence and Associated Factors of Migraine in Patients with Psoriasis

## **Introduction & Objectives:**

This study aims to investigate the prevalence and characteristics of headache disorders, particularly migraine, in psoriasis patients, and identify factors associated with migraine presence in this population.

#### **Materials & Methods:**

A cross-sectional survey was conducted from March to July 2024 at the dermatology clinic of Eulji Medical Center. A total of 100 psoriasis patients participated, providing characteristics of headache using questionnaires and being interviewed by a headache specialist if they had headache. Demographic and clinical features of psoriasis were also collected. Univariable and multivariable logistic regression analyses were performed to identify potential factors associated with migraine presence in patients with psoriasis.

# **Results:**

Among 100 patients with psoriasis, 25 (25%) were diagnosed with migraine. The overall psoriasis patients had no sex difference (male:female ratio of 47%:53%), while the majority of patients with migraine were female (36% male, 64% female). The Psoriasis Global Assessment (PGA) [0: clear, to 5: very severe] was higher in patients with migraine compared to those without migraine ( $3.6\pm0.7$  vs.  $3.0\pm1.4$ , p=0.005). Joint pain was more prevalent in patient with migraine, although not statistically significant (68.0% vs. 46.7%, p=0.070). Multivariable logistic regression analysis revealed that higher PGA was associated with the presence of migraine in patients with psoriasis (OR 1.512, 95% CI 1.002–2.284, p=0.049).

#### **Conclusion:**

This study confirms a higher prevalence of migraine among psoriasis patients compared to the general population, suggesting a potential link between the two disorders. Higher psoriasis severity was identified as a significant factor associated with migraine occurrence.

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## a review of candidiasis rates for biologics used in psoriasis

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# **Introduction & Objectives:**

Biologic therapies have revolutionized the treatment of psoriasis by targeting specific immune pathways. One potential side-effect of these agents includes an increased susceptibility to infections, including candidiasis. This study seeks to compare candidiasis rates for biologics used for psoriasis across clinical trials.

#### **Materials & Methods:**

A systematic review was conducted to determine candidiasis rates among various biologics. The preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) were used to guide methodology and reporting. A comprehensive literature search was performed using the databases PubMed, ScienceDirect, Embase, Scopus, Ovid Medline, Web of Science, and Google Scholar in September 2024 using keywords: "Candidiasis" AND "rate" AND "systemic" AND "psoriasis" AND "drug" AND "human." Original studies in English published from 2003 to 2024 were screened. A total of 1864 records were screened by three independent researchers. 226 records were then screened for full-text review by a fourth independent researcher, with 122 included in the final review.

## **Results:**

Izokibep had the highest rate of candidiasis at 18.2% (n=1) followed by bimekizumab at 8.8% (n=15) while tildrakizumab had the least rate at 0.1% (n=6) next to adalimumab at 0.16% (n=3). Numerous studies were available for ixekizumab and secukinumab with mean candidiasis rates of 2.2% (n=26) and 3.8% (n=41) respectively. Other rates include: briakinumab 0.2% (n=1) certolizumab 0.4% (n=3), upadacitinib 0.6% (n=2), risankizumab 1.0% (n=4), golimumab 1.1% (n=1), ustekinumab 1.5% (n=3), guselkumab 2.0% (n=4), etanercept 3.5% (n=2) brodalumab 3.7% (n=7).

# **Conclusion:**

The incidence of candidiasis varied among different biologics used for psoriasis, but they are generally higher for IL-17 antagonists. This is consistent with the phenotype of IL17 deficiency which is associated with chronic mucocutaneous candidiasis.







# Two-year real-world drug survival of bimekizumab for adult patients with plaque psoriasis: A multicenter retrospective study

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## **Introduction & Objectives:**

While open-label extension studies have investigated the long-term efficacy and safety of bimekizumab, real-world drug survival data remains limited. We conducted a retrospective multicentre study of patients treated with bimekizumab.

# **Materials & Methods:**

Our retrospective multicentre study included adult patients with plaque psoriasis from four Canadian institutions initiated on bimekizumab as per standard dosing. Patients who initiated bimekizumab 2 years prior to data lock were eligible for inclusion. A nonresponder imputation (NRI) analysis was used to account for missing data. A Kaplan-Meier analysis was conducted to estimate drug survival.

## **Results:**

This analysis included a total of 70 patients. The mean age was 44.9 (range: 19-74) years, with 61.4% (43/70) being male. At weeks  $104\pm8$  (n=70): Investigator Global Assessment (IGA) 0/1 was achieved by 75.7% (53/70); 75.7% (53/70), 71.4% (50/70), and 62.9% (44/70) achieved 75%, 90%, and 100% improvements in Psoriasis Area and Severity Index (PASI75, PASI90, and PASI100), respectively; 75.7% (53/70), 72.9% (51/70), and 67.1% (47/70) achieved absolute PASI scores  $\leq$ 3,  $\leq$ 2, and  $\leq$ 1; and 71.4% (50/70) achieved body surface area (BSA)  $\leq$ 1%. Initial week 52 $\pm$ 6 IGA 0/1, PASI75, PASI90, and PASI100 responses were maintained in 75% (12/16), 100% (51/51), 94.1% (48/51), and 84.3% (43/51) patients at week 104 $\pm$ 8, respectively. Eight patients (11.4%) utilized concomitant systemic therapy. During the maintenance period, dose escalation from every 8 weeks to every 4 weeks was required in 15.7% (11/70) patients (mean time to dose optimization: 61.1 [range: 18.7-99] weeks).

At weeks  $104\pm8$ , the real-world drug survival of bimekizumab was 77.1%. In total, 21 treatment-related adverse events (AEs) occurred (30%, 21/70). The most common AEs were candidiasis (7.1%, 5/70) and bacterial folliculitis (4.3%, 3/70). Sixteen treatment discontinuations (22.9%) were noted (lack of efficacy [n=11]; AEs: anxiety [n=1], inflammatory bowel disease [n=1]; nasopharyngitis [n=1], recurrent respiratory infection [n=1]; and pregnancy [n=1]). No serious infections,

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suicidal ideation/behaviour, malignancies, hypersensitivity reactions, major adverse cardiac events, or hepatic abnormalities were observed over 139.3 patient-years of safety follow-up.

# **Conclusion:**

Our real-world effectiveness outcomes are comparable to three existing open-label extension studies (BE RADIANT, BE BRIGHT, and BE SURE) with no new safety signals. Overall, our study is the first to report a long-term drug survival analysis of bimekizumab and demonstrates a favourable patient retention up to 2 years. Study limitations include its small sample size and retrospective nature.







# Long-term efficacy and safety of interleukin-23 inhibitor guselkumab therapy in real-life clinical practice: nine-year follow-up data

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**Materials & Methods:** A retrospective study of 36 patients diagnosed with widespread psoriasis vulgaris was conducted. Baseline indicators were assessed using the PASI, BSA, sPGA, VAS indices. Quality of life indicators were assessed using the DLQI and SF-36 scales. All patients received treatment with an interleukin-23 inhibitor (guselkumab) according to the standard regimen. Therapy efficacy was assessed by the dynamics of PASI, BSA, sPGA, VAS, DLQI, and SF-36 scores at baseline and after 12, 24, 52, and 468 weeks of therapy

**Results:** Starting from the 12th week of therapy, 17 (47.0%) patients achieved PASI 90, 19 (53.0%) patients by the 12th week of guselkumab treatment achieved PASI 100 (PASI - 0.0 [0.0; 1.73], (n=36), BSA - 0.0 [0.0; 3.5], (n=36), sPGA - 0.0 [0.0; 1.0], (n=36), VAS - 0.5 [0.0; 2.0], (n=36), p<0.001). Itching completely stopped by the 12th week in 18 (50.0%) patients and was 0 on the VAS itching scale, itching statistically significantly decreased in 18 (50.0%) patients and was in the range from 1 to 5 on the VAS itching scale (p<0.001). Clinical parameters continued to improve by week 24 of therapy (PASI - 0.0 [0.0; 0.0], (n=36), BSA - 0.0 [0.0; 3.5], (n=36), sPGA - 0.0 [0.0; 1.0], (n=36), VAS - 0.0 [0.0; 0.0], (n=36), p<0.001). There were no clinical manifestations of psoriasis by week 52 (PASI - 0.0 [0.0; 0.0], (n=36), BSA - 0.0 [0.0; 0.0], (n=36), sPGA - 0.0 [0.0; 0.0], (n=36), VAS - 0.0 [0.0; 0.0], (n=36), sPGA - 0.0 [0.0; 0.0], (n=36), BSA - 0.0 [0.0; 0.0], (n=36), sPGA - 0.0 [0.0; 0.0], (n=36), vAS - 0.0 [0.0; 0.0], (n=36), sPGA - 0.0 [0.0; 0.0], (n=36), bPGA - 0.0 [0.0; 0.0], (n=36), vAS - 0.0 [0.0; 0.0], (n=36), sPGA - 0.0 [0.0; 0.0], (n=36), bPGA - 0.0 [0.0; 0.0], (n=36), vAS - 0.0 [0.0; 0.0], (n=36), sPGA - 0.0

In 1 (3.0%) patient, low-grade papillary urothelial carcinoma was detected, without signs of invasion and prostate adenocarcinoma, surgery was performed without discontinuing guselkumab therapy, no data on oncopathology were obtained during subsequent observation.

**Conclusion:** A persistent response was maintained throughout the observation period, during 9 years of guselkumab therapy in all included patients. Adverse events (AE), serious adverse events requiring discontinuation of the IL-23 inhibitor guselkumab, were not registered.

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## Isolated Inverse Follicular Psoriasis Mimicking Perianal Crohn's Disease: A Diagnostic Challenge

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## Introduction:

Diagnosing perianal lesions in patients with Crohn's disease can be challenging, as they often overlap with other conditions. The prevalence of psoriasis in Crohn's disease is higher than would be expected by chance, complicating differentiation, particularly in the case of isolated inverse psoriasis. We report an unusual case of isolated inverse follicular psoriasis that mimicked a perianal lesion of Crohn's disease.

### Case:

A 29-year-old male with stenosing Crohn's disease on long-term immunosuppression presented with persistent, treatment-resistant anal pruritus. Examination revealed multiple erythematous follicular papules in the perianal region extending to the perineum, raising suspicion of perianal Crohn's disease or a reactive dermatosis.

A biopsy was performed to clarify the diagnosis, revealing epidermal acanthosis with focal thickening of the granular layer, lamellar hyperkeratosis over follicular openings, mild spongiosis, and a superficial inflammatory infiltrate composed of lymphocytes, plasma cells, and a few neutrophils, consistent with follicular psoriasis. The absence of granulomas ruled out cutaneous Crohn's disease, and no irritant exposure was identified to suggest contact dermatitis. A detailed dermatological examination revealed no other psoriatic lesions on the trunk, scalp, or nails, so the diagnosis of isolated inverse follicular psoriasis was established. The patient was started on topical corticosteroids, leading to a rapid and marked improvement in symptoms within days.

At follow-up after three weeks, the pruritus had completely resolved, and the perianal lesions had significantly regressed. Systemic psoriasis treatment was not required.

## Discussion:

Psoriasis is a chronic systemic immune-mediated disorder affecting approximately 0.5% to 11.4% of adults. Inverse psoriasis affects 3% to 7% of patients with psoriasis, and it manifests with erythematous plaques without the classic scaling appearance. It may present with typical lesions or, less frequently, in isolation in the anogenital region. In the anogenital presentation only, the diagnosis should be made by biopsy, looking for the classic histopathological features of psoriasis. Follicular psoriasis (FP) is an underreported entity, presenting as scaly follicular papules, in our case the classic clinical picture may have been altered by the maceration of the perianal fold.

Crohn's disease (CD) is a chronic inflammatory condition that can affect any part of the gastrointestinal tract, often presenting with symptoms such as diarrhea, abdominal pain, fever, intestinal obstruction, and fistulas. In addition to these systemic manifestations, dermatologic complications are common and include erythema nodosum, pyoderma gangrenosum, pyoderma vegetans, pyostomatitis vegetans, perianal skin tags, and oral mucosa lesions.

There is a significant association between psoriasis and inflammatory bowel disease.. The possible explanations for the identified association include genetic abnormalities, immune dysfunction, systemic inflammation, and dysregulation of gut microbiota. Previous studies have shown common genotypes, clinical course, and immunologic features shared by psoriasis and IBD.

## **Conclusion:**

This case highlights the diagnostic challenge of distinguishing isolated inverse follicular psoriasis from perianal lesions of Crohn's disease, emphasizing the importance of biopsy in atypical presentations.







# Advancing Psoriasis Care in Morocco: Evaluating Treatment Accessibility and Patient-Centered Outcomes

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**Introduction & Objectives:** Although the chronic inflammatory skin condition psoriasis causes great physically and psychological burden, systematic healthcare issues cause differences in treatment even in Morocco. Through an extensive analysis of the current data, this systematic review assesses treatment accessibility, therapeutic approaches, and patient-centered results in Morocco.

Materials & Methods: MeSH terms ("psoriasis," "Morocco," "healthcare access") were combined with free-text keywords: "treatment barriers," "biologics," "quality of life," and "patient-reported outcomes," in a structured search across PubMed, Embase, Web of Science, Cochrane Library, African Journals Online (AJOL), and regional databases (2000–2023). With full-text availability in English, French, or Arabic, inclusion criteria included observational studies, clinical trials, and qualitative research describing Psoriasis epidemiology, treatment trends, accessibility problems, or patient experiences in Morocco. We removed case reports (<5 patients), non-peer-reviewed papers, and studies missing primary Moroccan data.

**Results:** Following dual independent screening (PRISMA 2020), 39 papers from 1,872 screened records met the inclusive criteria. Focusing on therapy modalities (topical, systemic, biologics), accessibility hurdles (cost, geographic, cultural), and patient outcomes (Dermatology Life Quality Index [DLQI], Psoriasis Area Severity Index [PASI]) data extraction Newcastle-Ottawa Scale and CASP checklists were used in quality evaluation. RevMan 5.4 allowed meta-analysis of quantitative data. Results showed strong dependence on topical corticosteroids (89% of studies) and phototherapy (64%), with biologic treatments available to only 6% of patients, mostly in metropolitan locations. Travel restrictions and expense (mean monthly treatment cost: 18% of family income) drove 3.1-fold greater risks of treatment discontinuation (95% CI: 1.8–5.2) for rural populations. With stigma and mental health comorbidities reported in 68% of qualitative research, patient-reported outcomes (16 studies) shown substantial quality-of- life impairment (mean DLQI: 15.4 ± 6.2). Low-income groups and women (OR: 1.9, 95% CI: 1.3–2.8) showed differences in care availability according to subgroup analysis.

**Conclusion:** Driven by inequitable resource allocation and socioeconomic constraints, this analysis shows substantial deficiencies in psoriasis treatment in Morocco. Subsidizing biologics, increasing dermatologic training in remote regions, and including telemedicine for distributed treatment are among the urgent initiatives. Reducing morbidity and advancing health equality depend on patient-centered approaches including mental health support and culturally relevant education initiatives.

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# A practical approach to the patients with adult erythroderma: a single center study

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**Introduction & Objectives:** Psoriasis is a chronic, recurrent, genetically determined, immune-inflammatory dermatosis of multifactorial nature that affects up to 3% of the world's population. One of the clinically severe and difficult-to-treat forms of psoriasis is psoriatic erythroderma (PE). Infection, irrational use of corticosteroids, stress, medication use and withdrawal, and excessive sunlight can be trigger factors for the occurrence of PE, which is clinically manifested by large infiltrated reddish plaques, swelling, and desquamation, located on the body and scalp. The aim of our research was to study cases of psoriatic erythroderma as a severe form of psoriasis among the population, based on which conclusions were drawn about the sex and age structure, comorbidities, and the relationship of PE with the lifestyle and bad habits of the patients.

**Materials & Methods:** The study analyzed 64 clinical cases of PE among patients observed at the clinic over the past 10 years (2014-2023). The absence of any distinctive clinical and histological changes, the torpidity of the skin process, and resistance to therapy made diagnosis more challenging.

**Results:** The register of 64 cases included 60.94% men and 39.06% women. The average age was 45 years. The presence of psoriasis in the family history was noted in 12.5% of cases. Thus, 18.75% of patients had bad habits such as alcohol abuse and/or smoking. Among the provoking factors of PE were noted: stress, infections, discontinuation of systemic therapy, medication, and frequent changes of biologics. In the study of comorbidities, the following were identified: psoriatic arthritis, arterial hypertension, coronary heart disease, chronic cholecystitis, biliary dyskinesia, peptic ulcer of the stomach and duodenum, chronic gastritis, type 2 diabetes mellitus, metabolic syndrome, HCV, neurosyphilis, and HIV infection. The main complaints of patients were moderate to severe skin itching, rash soreness, dry skin, desquamation, and soreness and stiffness in the joints. The rashes were characterized by bright red, bright pink, or pink-red colors. Some patients had nail lesions characterized by subcutaneous hyperkeratosis, symptoms of "oil stain," "thimble," and an increase in body temperature above 37 °C. The patients were treated with local therapy using corticosteroids and keratolytic agents, infusion therapy, UVB-311, PUVA, plasmapheresis, methotrexate, neotigason, and biological therapy (IL-17 inhibitor - netakimab).

**Conclusion:** Psoriatic erythroderma is a severe form of psoriasis predominantly among the male population, particularly in patients with a burdened somatic history and the presence of bad habits. It is characterized by a prevalence of comorbidities that play an important role in the interdisciplinary approach.







Nivolumab and ipilimumab-induced severe psoriasis successfully treated with secukinumab in a patient with stage IV melanoma

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**Introduction & Objectives:** Immune checkpoint inhibitors (ICIs), such as nivolumab and ipilimumab, have significantly improved the prognosis of advanced melanoma, but they are associated with immune-related adverse events (AEs), with the most common being cutaneous toxicities. In particular, combination immunotherapy with nivolumab and ipilimumab is responsible for most AEs during immunotherapy, as up to 60% of patients develop cutaneous AEs during treatment. We present the case of a 76-year-old woman who developed severe psoriasis during combination immunotherapy, which was effectively treated with secukinumab.

Materials & Methods: Our patient had a remote history of psoriasis in remission for decades, with no ongoing therapy. She was being treated with encorafenib and binimetinib for stage IIID melanoma and experienced disease progression with brain, liver, lymph node, and subcutaneous metastases. After receiving stereotactic radiotherapy for cerebral metastases, she began therapy with nivolumab and ipilimumab. By the time of the second infusion, psoriasiform patches were already present on the upper limbs and buttocks, which were managed with a topical treatment. After the third infusion, the condition worsened with further spread to other body areas, and oral corticosteroid therapy was initiated. The fourth infusion was postponed due to worsening of the cutaneous condition, which had become almost erythrodermic (PASI 26), and the patient was admitted to our dermatology department for intravenous steroid therapy. It was decided to start therapy with secukinumab, an anti-IL-17A monoclonal antibody, but its initiation was delayed due to the development of pneumonia during hospitalization.

**Results:** Therefore, therapy was started two weeks after discharge, with rapid and significant improvement observed during the induction phase. Three weeks later, the patient presented a PASI of 4, allowing her to resume single-agent immunotherapy with nivolumab. She subsequently maintained good control of her psoriasis with a PASI < 3.

**Conclusion:** Cutaneous adverse events are common in cancer patients treated with immunotherapy. Currently, there are no guidelines to direct us in the proper management of these patients. This case highlights the importance of recognizing and appropriately managing severe cutaneous toxicities induced by ICIs to ensure the continuation of potentially lifesaving cancer therapies.







Evaluation of Clinical Features and Treatment Responses in Patients with Moderate and Severe Chronic Plaque Type Psoriasis Using Interleukin 17 (IL-17) Inhibitors: A Single Center Experience

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# **Introduction & Objectives:**

Psoriasis is an immune-mediated inflammatory disease that can be observed in various clinical forms. Psoriasis vulgaris is the most common type of the disease, and there are also types such as guttate psoriasis, generalized pustular psoriasis, palmoplantar psoriasis, erythrodermic psoriasis, and inverse psoriasis.

Depending on the severity of the disease, topical agents, phototherapy, conventional agents such as methotrexate, acitretin, cyclosporine, and biological agents are used in treatment.

Our study aims to examine the clinical characteristics of psoriasis patients receiving IL17 inhibitor treatment in our hospital, which is a tertiary healthcare center, and to reveal the demographic, clinical and treatment-related characteristics of the patients.

#### **Materials & Methods:**

Our study was planned as a single-center and retrospective study. Patients who were followed up in our clinic with a diagnosis of psoriasis and received IL-17 inhibitor treatment between 2017-2022 were included in the study.

# **Results:**

The study included 75 patients who were followed up with chronic plaque psoriasis and received IL-17 inhibitor treatment. 49 (65.3%) of the patients were male, 26 (34.6%) were female, and the ages of the patients ranged from 21 to 74 (mean age  $49.16 \pm 12.2$ ). Family history was present in 29 (38.6%) patients. The comorbidities in the patients included hypertension, hyperlipidemia, hepatobiliary disease, diabetes mellitus, cardiovascular disease, and renal disease.

When the body involvement areas of the patients were evaluated before treatment, the most common lesions were located in the lower extremities (86.6%), upper extremities (85.3%), trunk (74.6%), and scalp (65.3%). When the lesion distribution was evaluated after IL-17 inhibitor treatment, the most common lesions were located in the upper extremities (28%), lower extremities (25.3%), and scalp (17.3%). Nail involvement was present in 65.3% of the cases. 41.3% of the patients diagnosed with psoriatic arthritis.

When the IL-17 inhibitor treatments received by the patients were evaluated, 70.6% of the cases had a history of ixekizumab use, and 29.3% had a history of secukinumab use.

When the effectiveness of the treatment was evaluated, at the end of the 52nd week, 97% of the patients had a PASI50 response, 78% had a PASI75 response, and 69% had a PASI90 response.

# **Conclusion:**

IL-17 inhibitors include ixekizumab and secukinumab. IL-17 inhibitors are indicated in patients with moderate-severe psoriasis when conventional treatments are ineffective or cannot be used. There are data showing that IL-17 inhibitors are effective specifically in nail, scalp, palmoplantar region and joint involvement in addition to skin findings of psoriasis. In this study, which included moderate and severe chronic plaque type psoriasis patients receiving IL-17 inhibitor treatment

in our clinic, and it was demonstrated that IL-17 inhibitors are effective and safe treatment agents in the treatment of psoriasis.







## Clinical and laboratory deviations depending on the severity of the course of psoriasis

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# **Introduction & Objectives:**

**Objectives:** to analyze laboratory abnormalities depending on the severity of the course of psoriasis.

## **Materials & Methods:**

**Material and Methods:** 168 (100%) patients with Psoriasis(Ps) 122 (72.6%) men and 46 (27.3%) women. Only skin manifestations of Ps were in 139 (82.7%), out of 168 patients, psoriatic arthritis (PsA) was registered in 29 (17.2%) out of 168.

#### **Results:**

**Results:** The analysis of laboratory data revealed in the general clinical analysis of blood in patients with only skin manifestations of psoriasis, the mean value of the leukocyte level is  $10.5 \pm 3.5$ ., The level of eosinophils is  $2.9 \pm 2.27$ ., The level of neutrophils is  $60.9 \pm 71.2$ ., Lymphocytes  $27.9 \pm 8.8$ ., Erythrocytes  $4.6 \pm 0.5$ ., Platelets  $255.8 \pm 62.6$ ., Hemoglobin  $142.0 \pm 13.0$  and erythrocyte sedimentation rate (ESR)  $-14.2 \pm 10.4$ .

When analyzing laboratory data in the biochemical blood test, the average ALT value was 24.7  $\pm$  13.0., AST 22.3  $\pm$  7.3., Bilirubin 13.2  $\pm$  4.6., Total protein 71.3  $\pm$  8, 5., urea 4.6  $\pm$  1.5., Glucose 5.7  $\pm$  1.1.

When analyzing laboratory data in the general clinical analysis of blood in patients with established psoriatic arthritis, the following was revealed: the average value of the leukocyte level is  $11.5 \pm 3.5$ ., The level of eosinophils is  $3.0 \pm 2.2$ ., The neutrophil level is  $60.2 \pm 19$ , 1., lymphocytes  $28.4 \pm 8.8$ ., Erythrocytes  $4.6 \pm 0.5$ ., Platelets  $255.3 \pm 63.0$ ., Hemoglobin  $142.3 \pm 12.87$ ., And erythrocyte sedimentation rate (ESR)  $20.2 \pm 10.3$ .

The analysis of laboratory data in the biochemical blood test revealed an average ALT value of 24.4  $\pm$  13.1., AST 22.6  $\pm$  7.4., Bilirubin 13.4  $\pm$  4.6., Total protein -71.5  $\pm$  8, 8., urea -4.6  $\pm$  1.5., Glucose-5.7  $\pm$  1.0.

### **Conclusion:**

**Conclusions:** the level of leukocytes, eosinophils, platelets, erythrocytes, neutrophils, lymphocytes in all 168 (100%) patients was in the normal range. The level of hemoglobin, leukocytes and ESR was usually normal or higher than normal. We found that in almost all patients there are rather high (upper normal) indices for hemoglobin, leukocytes and ESR. It is likely that in psoriasis erythropoiesis is stimulated and a systemic inflammatory response is noted. Also, high (upper limits of the norm) were also revealed by the biochemical parameters of ALT, AST, blood glucose levels, which reliably reveals metabolic risks in patients with psoriasis.