

# Pruritus in the Elderly

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# Disclosures

Advisory board member/consultant: Abbvie, Amgen, Arcutis Biotherapeutics, Aslan Pharmaceuticals, Cara Therapeutics, Castle Biosciences, Celldex Therapeutics, Dermavant, Galderma, Incyte Corporation, Johnson & Johnson, Leo Pharma, Novartis Pharmaceuticals Corporation, Pfizer, Regeneron Pharmaceuticals, and Sanofi

Investigator: Galderma, Incyte, Pfizer, and Sanofi

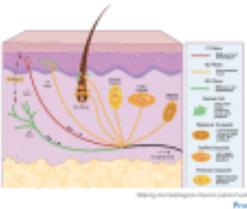
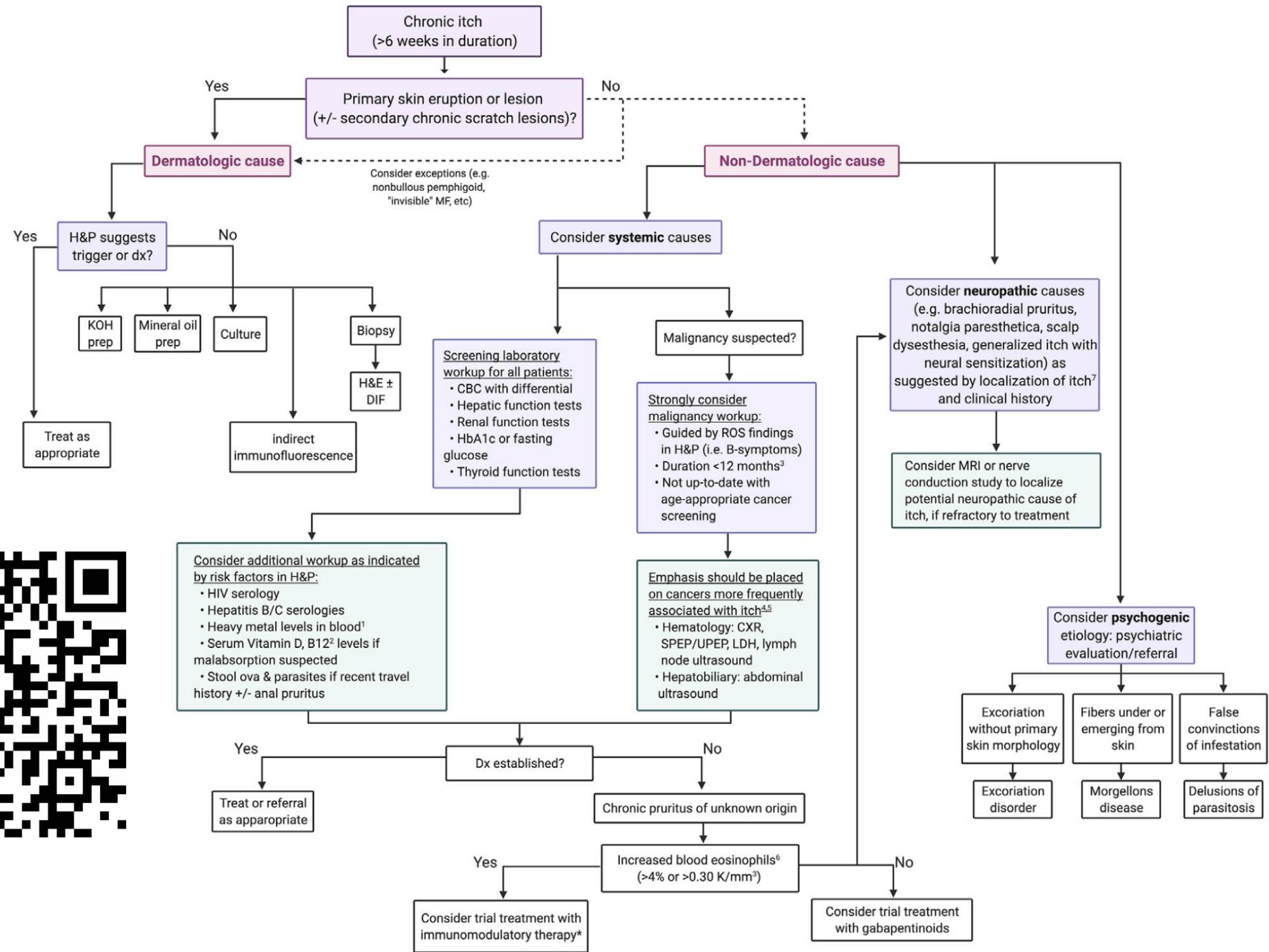
National Secretary/Treasurer for the Skin of Color Society

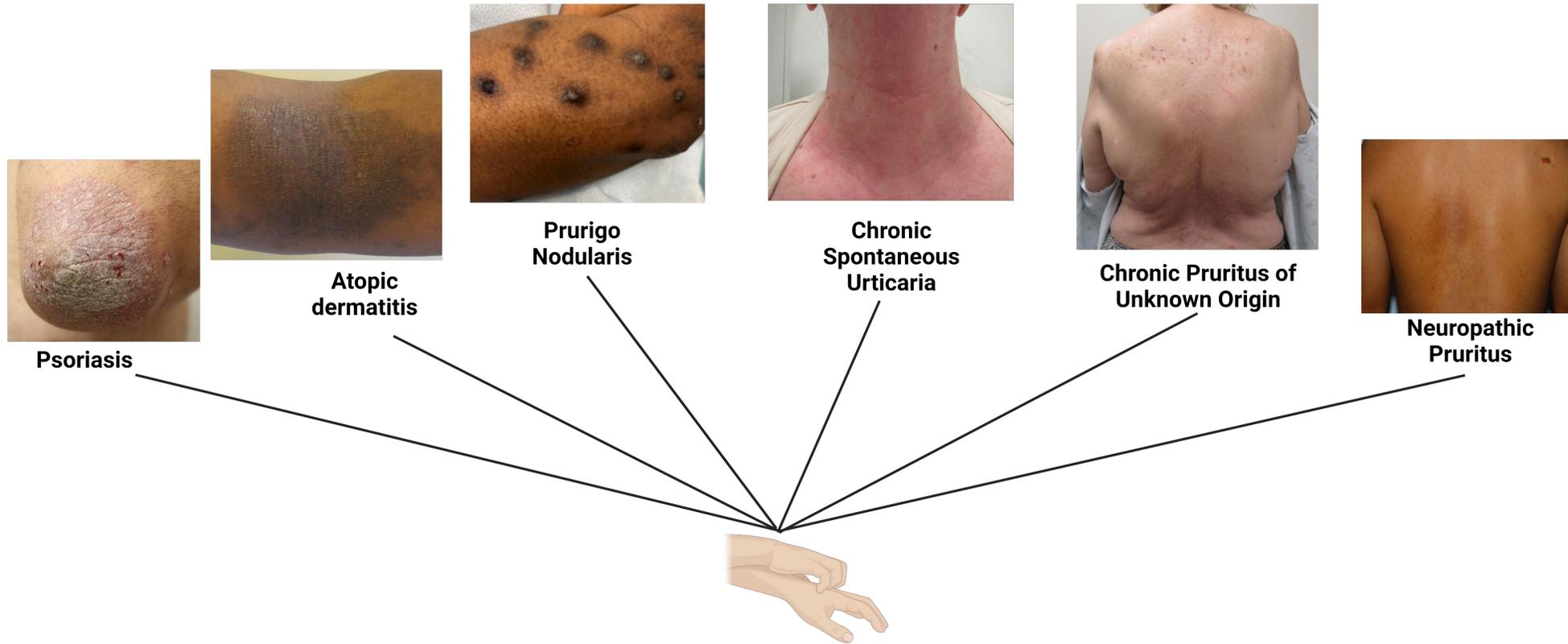
National Eczema Society Scientific and Medical Advisory Council Member





# Diagnostic workup of chronic pruritus





Photos courtesy of Dr. Shawn Kwatra, MD



# Case #1

## Patient presentation

- 71-year-old African American female
- 6-month history of generalized itch
- Itch assessment: WI-NRS 10

**PMH:** T2DM, HTN, CKD

**Previous therapies:** Antihistamines and topical steroids

**Current therapies:** Fexofenadine, cetirizine





**“I had three of four times where I was scratching my entire body... I was bleeding, bruising, and had to go to a 24-hour urgent care”**

**“All the time it’s unbearable and extremely bothersome”**

**“I feel debilitated”**



# What is Chronic Pruritus of Unknown Origin (CPUO)?

Open Access Review

## Pathophysiology and Treatment of Pruritus in Elderly

by Bo Young Chung <sup>†</sup> , Ji Young Um <sup>†</sup> , Jin Cheol Kim , Seok Young Kang ,  
 Chun Wook Park and Hye One Kim <sup>\*</sup>

## Pruritus in the Older Patient A Clinical Review

Timothy G. Berger, MD<sup>1</sup>; Melissa Shive, MD, MPH<sup>2</sup>; G. Michael Harper, MD<sup>3</sup>

Chronic pruritus of unknown origin (CPUO): Uniform nomenclature and diagnosis as a pathway to standardized understanding and treatment

Brian S. Kim, MD, MTR • Timothy G. Berger, MD • Gil Yosipovitch, MD

International Journal of  
Dermatology



Full Access

## Willan's itch and other causes of pruritus in the elderly

Jon R. Ward MD, Jeffrey D. Bernhard MD

*Paradigms and perspectives*

## Itch in elderly patients: Origin, diagnostics, management

Check for updates

Martin Steinhoff, MD, PhD,<sup>a,b,c,d,e,f,g</sup> Sara Al-Khawaga, MD, PhD,<sup>a,b,c,d,f</sup> and Joerg Buddenkotte, MD, PhD<sup>a,b,c</sup> Doha, Qatar, and New York, NY



International Journal of  
Molecular Sciences



Review

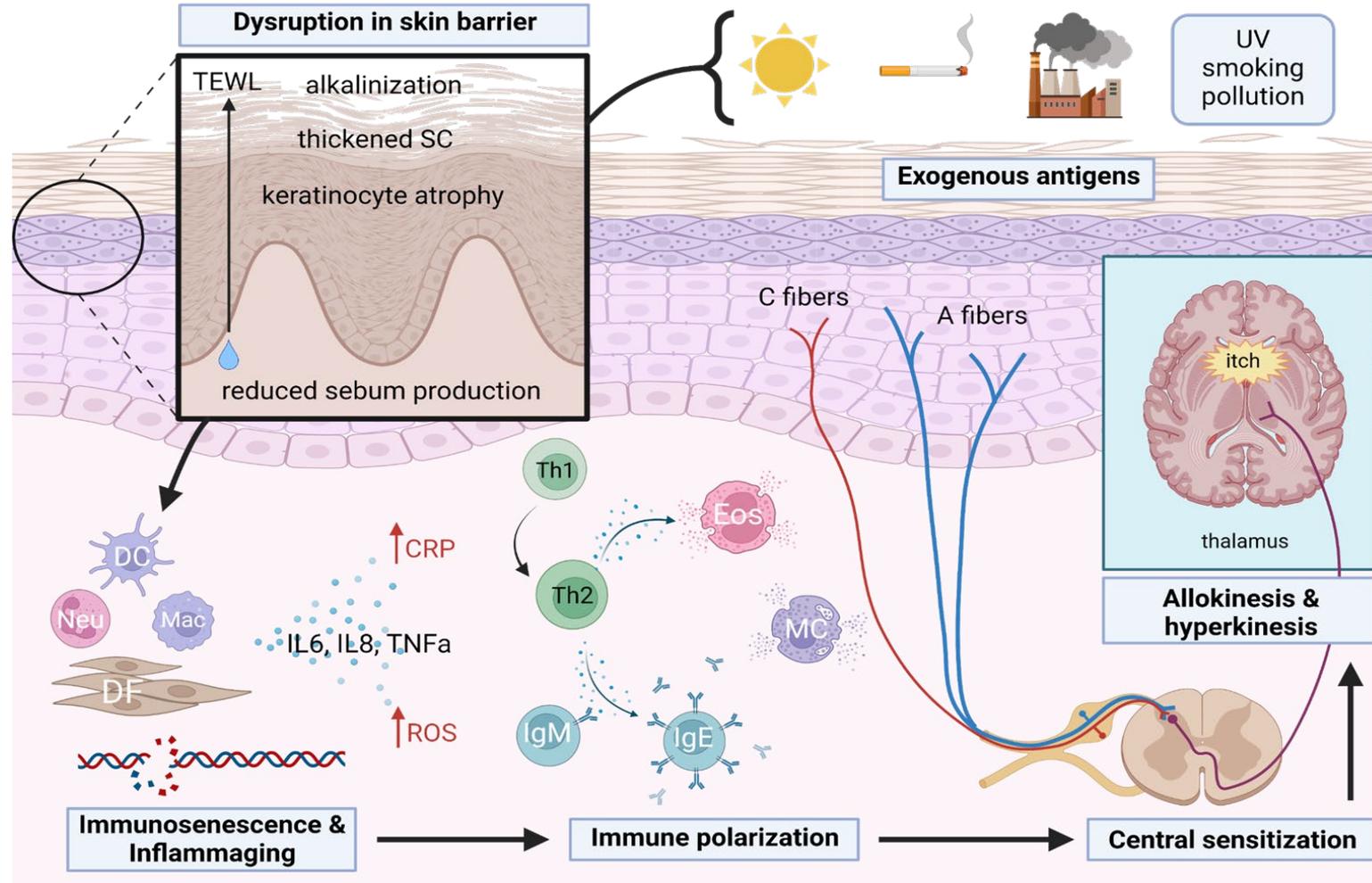
## Pathophysiology and Treatment of Pruritus in Elderly

Bo Young Chung <sup>†</sup> , Ji Young Um <sup>†</sup> , Jin Cheol Kim , Seok Young Kang , Chun Wook Park and Hye One Kim <sup>\*</sup>



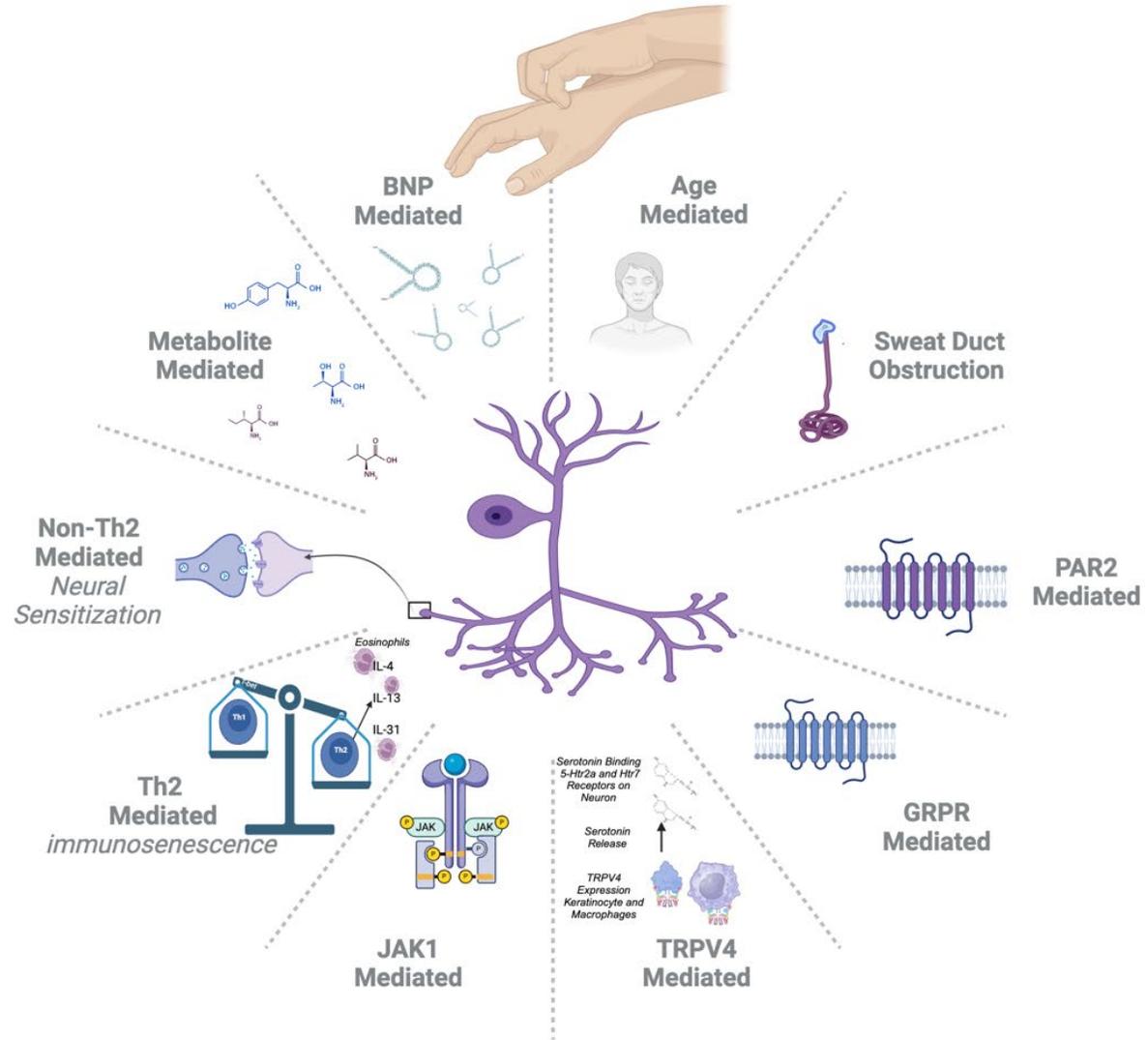


# Pathogenesis of CPUO





# Underlying Mechanisms





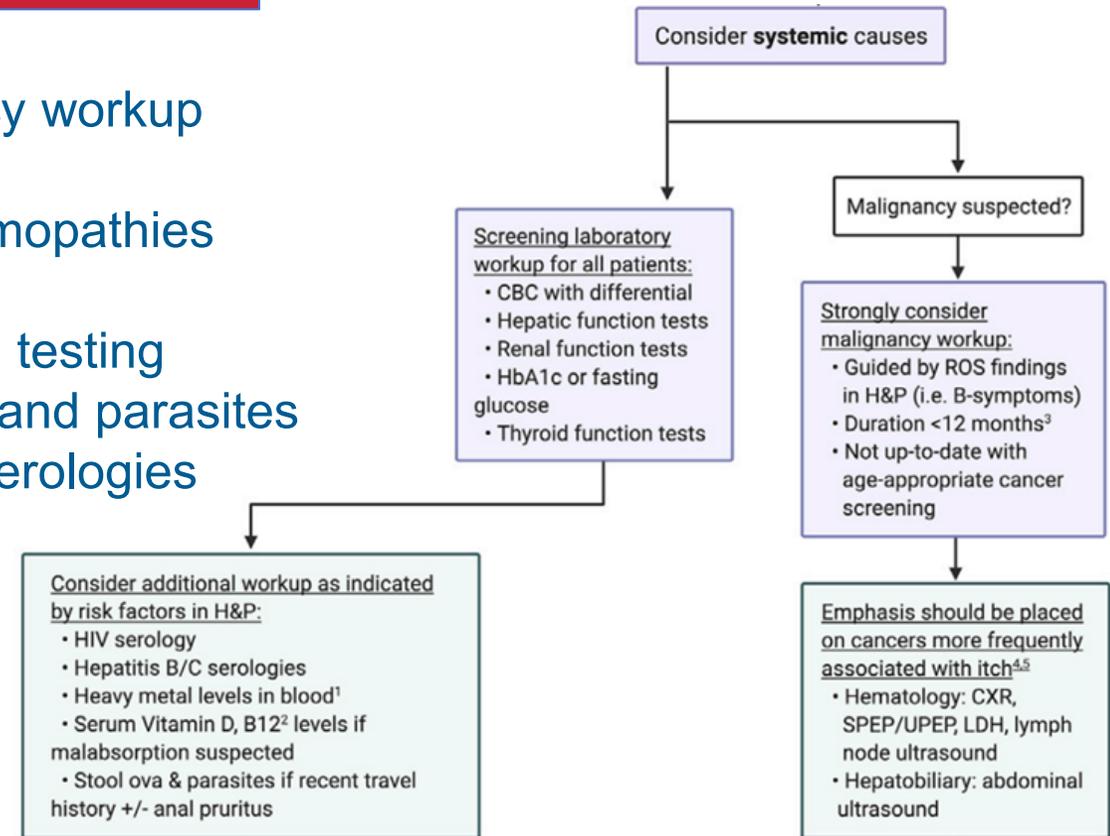
## All Patients

- ✓ CBC with differential
- ✓ Liver function tests
- ✓ Renal function tests
- ✓ Thyroid function testing



## As indicated

- ✓ Targeted malignancy workup
- ✓ Chest x-rays
- ✓ Evaluation for gammopathies
- ✓ HIV testing
- ✓ Bullous pemphigoid testing
- ✓ Stool exam for ova and parasites
- ✓ Hepatitis B and C serologies





# Case #1

## Patient presentation

- 71-year-old African American female
- 1-year history of generalized itch
- Itch assessment: WI-NRS 10

**PMH:** T2DM, HTN, CKD

**Previous therapies:** Antihistamines and topical steroids

**Current therapies:** Fexofenadine, cetirizine

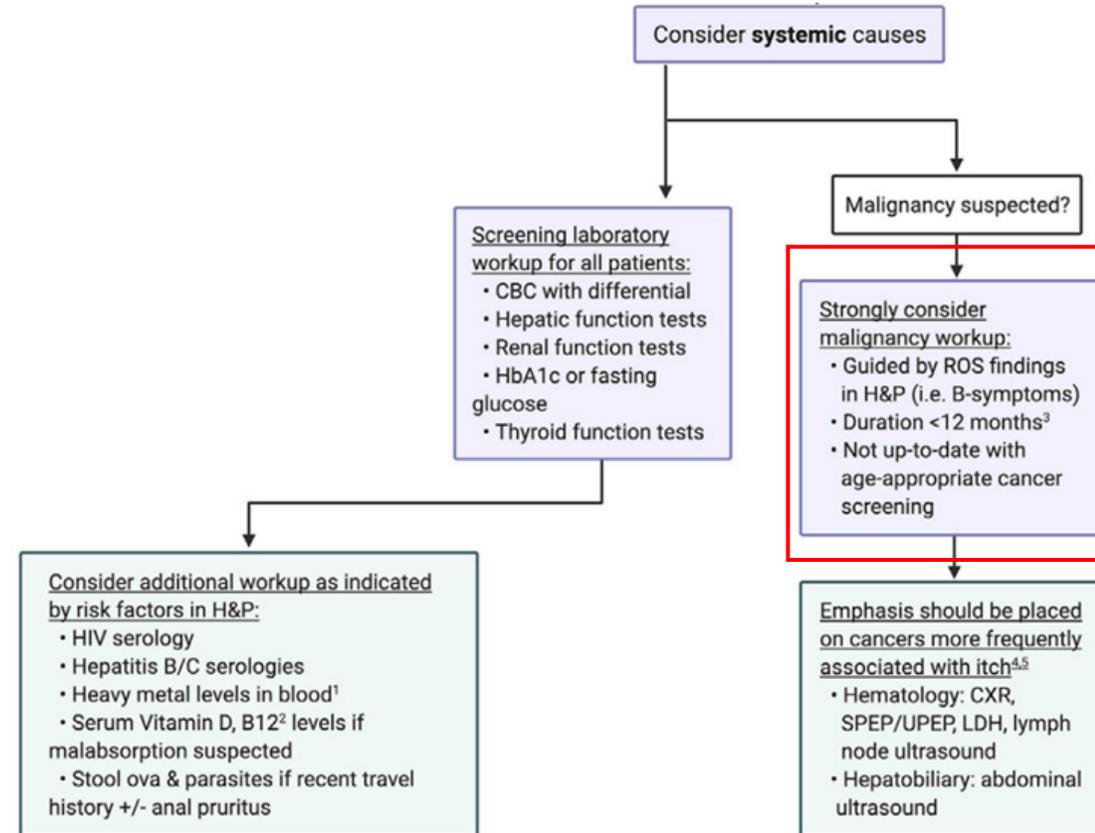




# 71-year-old female with generalized pruritus

## Laboratory workup

- CBC: Eos 5.4% (high)
- Otherwise unremarkable





# Cancer incidence among patients with a hospital diagnosis of pruritus: a nationwide Danish cohort study

S.A. Johannesdottir,<sup>1</sup> D.K. Farkas,<sup>1</sup> G.R. Vinding,<sup>2</sup> L. Pedersen,<sup>1</sup> A. Lamberg,<sup>1,3</sup> H.T. Sørensen<sup>1</sup> and A.B. Olesen<sup>3</sup>

Departments of <sup>1</sup>Clinical Epidemiology and <sup>3</sup>Dermatology, Aarhus University Hospital, P.P. Ørumsgade 11, 8000 Aarhus C, Denmark

<sup>2</sup>Department of Dermatology, Roskilde Hospital, Health Sciences Faculty, University of Copenhagen, Roskilde, Denmark

Table 2 Standardized incidence ratios (SIRs) of cancer by length of follow-up among patients with a diagnosis of pruritus

Follow-up time	Men		Women		Total	
	Number of observed cancers	SIR (95% CI)	Number of observed cancers	SIR (95% CI)	Number of observed cancers	SIR (95% CI)
0–3 months	42	2.58 (1.86–3.49)	29	1.72 (1.15–2.47)	71	2.14 (1.67–2.70)
4–12 months	68	1.51 (1.17–1.91)	64	1.33 (1.02–1.70)	132	1.42 (1.19–1.68)
1–2 years	114	1.17 (0.96–1.40)	115	1.07 (0.88–1.28)	229	1.11 (0.97–1.27)
3–4 years						1.06 (0.86–1.30)
5–9 years						1.06 (0.86–1.21)
≥ 10 years						1.06 (0.86–1.10)

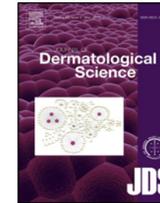
- This study demonstrates a twofold increased incidence of cancer among patients with pruritus in the first 3 months after a diagnosis of pruritus, declining rapidly thereafter.
- The 1-year absolute cancer risk was 1.63% and 155 patients with pruritus would have needed to be examined to detect one excess cancer.



Contents lists available at ScienceDirect

# Journal of Dermatological Science

journal homepage: [www.jdsjournal.com](http://www.jdsjournal.com)



## Predictors of malignancy development in patients with chronic pruritus<sup>☆</sup>



Nicole Fett<sup>a,\*</sup>, Kevin Haynes<sup>b</sup>, Kathleen Joy Probert<sup>b</sup>, David J. Margolis<sup>c</sup>

<sup>a</sup> Oregon Health and Science University, Portland, OR, United States

<sup>b</sup> Department of Biostatistics and Epidemiology, Center for Clinical Epidemiology and Biostatistics, Center for Pharmacoepidemiology Research and Training, Perelman School of Medicine at the University of Pennsylvania, Philadelphia, PA, United States

<sup>c</sup> Department of Dermatology, University of Pennsylvania School of Medicine, Philadelphia, PA, United States

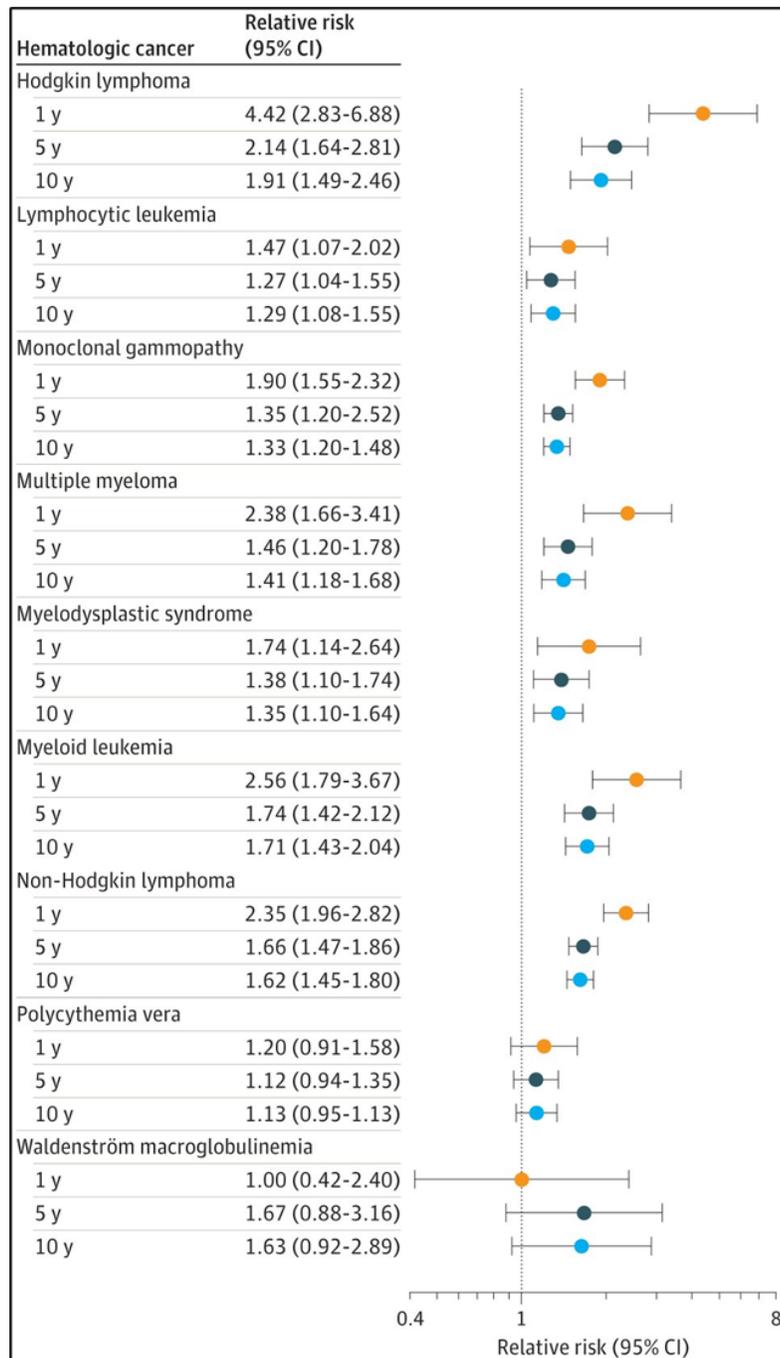
### Table 3

Predictors of malignancy development in IFSI group 2 patients using data generated with multiple imputation.

Logistic regression model variable	Fully adjusted OR (95% CI)
Age > 60 years	4.13 (3.15, 5.42)
Male sex	1.26 (1.02, 1.55)
Liver disease	2.28 (0.95, 5.49)
Renal disease	1.18 (0.76, 1.84)
Diabetes	1.11 (0.82, 1.50)
Smoking status <sup>a</sup> (ever smoker)	2.02 (1.42, 2.88)
Etoh use <sup>d</sup> (current use)	1.32 (0.83, 2.10)

Statistically significant in another model

<sup>a</sup> Imputed with multiple imputation via chained equations.

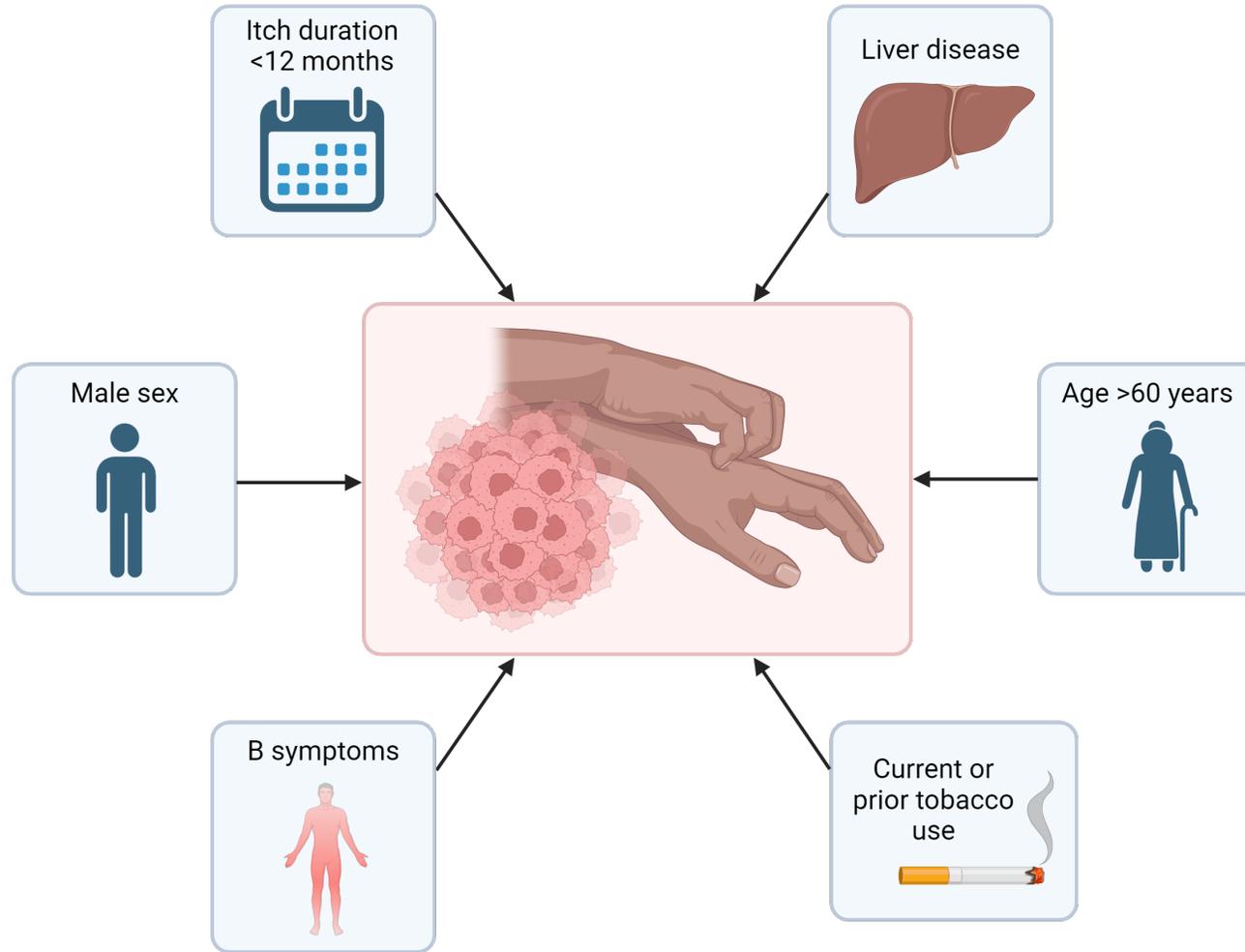


**Table 2. Absolute and Cumulative Relative Risks of Hematologic Cancers After 1 Year, 5 Years, and 10 Years**

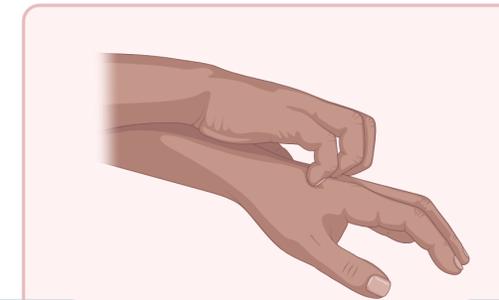
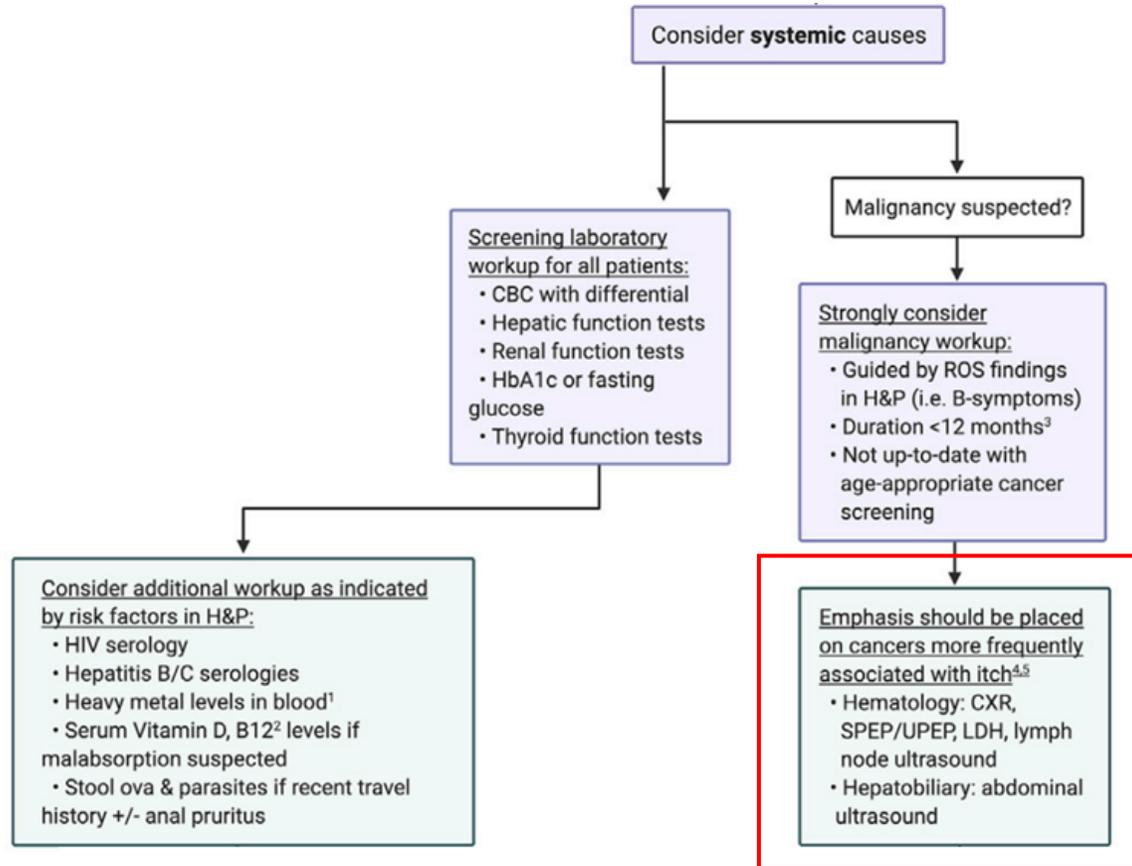
Hematologic cancer	Absolute risk, No. (%)		Relative risk (95% CI)	P value
	Pruritus	Controls		
<b>Hodgkin lymphoma, y</b>				
1	106 (0.032)	24 (0.007)	4.42 (2.83-6.88)	<.001
5	165 (0.050)	77 (0.024)	2.14 (1.64-2.81)	<.001
10	178 (0.054)	93 (0.028)	1.91 (1.49-2.46)	<.001
<b>Lymphocytic leukemia, y</b>				
1	94 (0.029)	64 (0.020)	1.47 (1.07-2.02)	.02
5	221 (0.067)	174 (0.053)	1.27 (1.04-1.55)	.02
10	269 (0.082)	208 (0.064)	1.29 (1.08-1.55)	.005
<b>Monoclonal gammopathy, y</b>				
1	273 (0.083)	144 (0.044)	1.90 (1.55-2.32)	<.001
5	642 (0.196)	476 (0.145)	1.35 (1.20-2.52)	<.001
10	769 (0.235)	577 (0.176)	1.33 (1.20-1.48)	<.001
<b>Multiple myeloma, y</b>				
1	100 (0.031)	42 (0.013)	2.38 (1.66-3.41)	<.001
5	241 (0.074)	165 (0.050)	1.46 (1.20-1.78)	<.001
10	293 (0.089)	208 (0.064)	1.41 (1.18-1.68)	<.001
<b>Myelodysplastic syndrome, y</b>				
1	59 (0.018)	34 (0.010)	1.74 (1.14-2.64)	.009
5	177 (0.054)	128 (0.039)	1.38 (1.10-1.74)	.005
10	224 (0.068)	166 (0.051)	1.35 (1.10-1.64)	.003
<b>Myeloid leukemia, y</b>				
1	105 (0.032)	41 (0.013)	2.56 (1.79-3.67)	<.001
5	262 (0.080)	151 (0.046)	1.74 (1.42-2.12)	<.001
10	330 (0.101)	193 (0.059)	1.71 (1.43-2.04)	<.001
<b>Non-Hodgkin lymphoma, y</b>				
1	383 (0.117)	163 (0.050)	2.35 (1.96-2.82)	<.001
5	727 (0.222)	439 (0.134)	1.66 (1.47-1.86)	<.001
10	846 (0.258)	524 (0.160)	1.62 (1.45-1.80)	<.001
<b>Polycythemia vera, y</b>				
1	114 (0.035)	95 (0.029)	1.20 (0.91-1.58)	.19
5	245 (0.075)	218 (0.067)	1.12 (0.94-1.35)	.21
10	289 (0.088)	256 (0.078)	1.13 (0.95-1.13)	.16
<b>Waldenström macroglobulinemia, y</b>				
1	10 (0.003)	10 (0.003)	1.00 (0.42-2.40)	>.99
5	25 (0.008)	15 (0.005)	1.67 (0.88-3.16)	.11
10	31 (0.009)	19 (0.006)	1.63 (0.92-2.89)	.09



### Risk factors for malignancy in chronic itch



## Malignancies most commonly associated with chronic itch



**Hematologic malignancies**

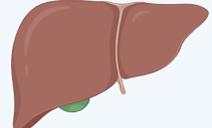
- Hodgkin lymphoma
- Non-Hodgkin lymphoma
- Polycythemia vera



**Diagnostic workup**

- CBC w/ diff
- SPEP/UPEP
- CXR
- LDH
- Lymph node ultrasound

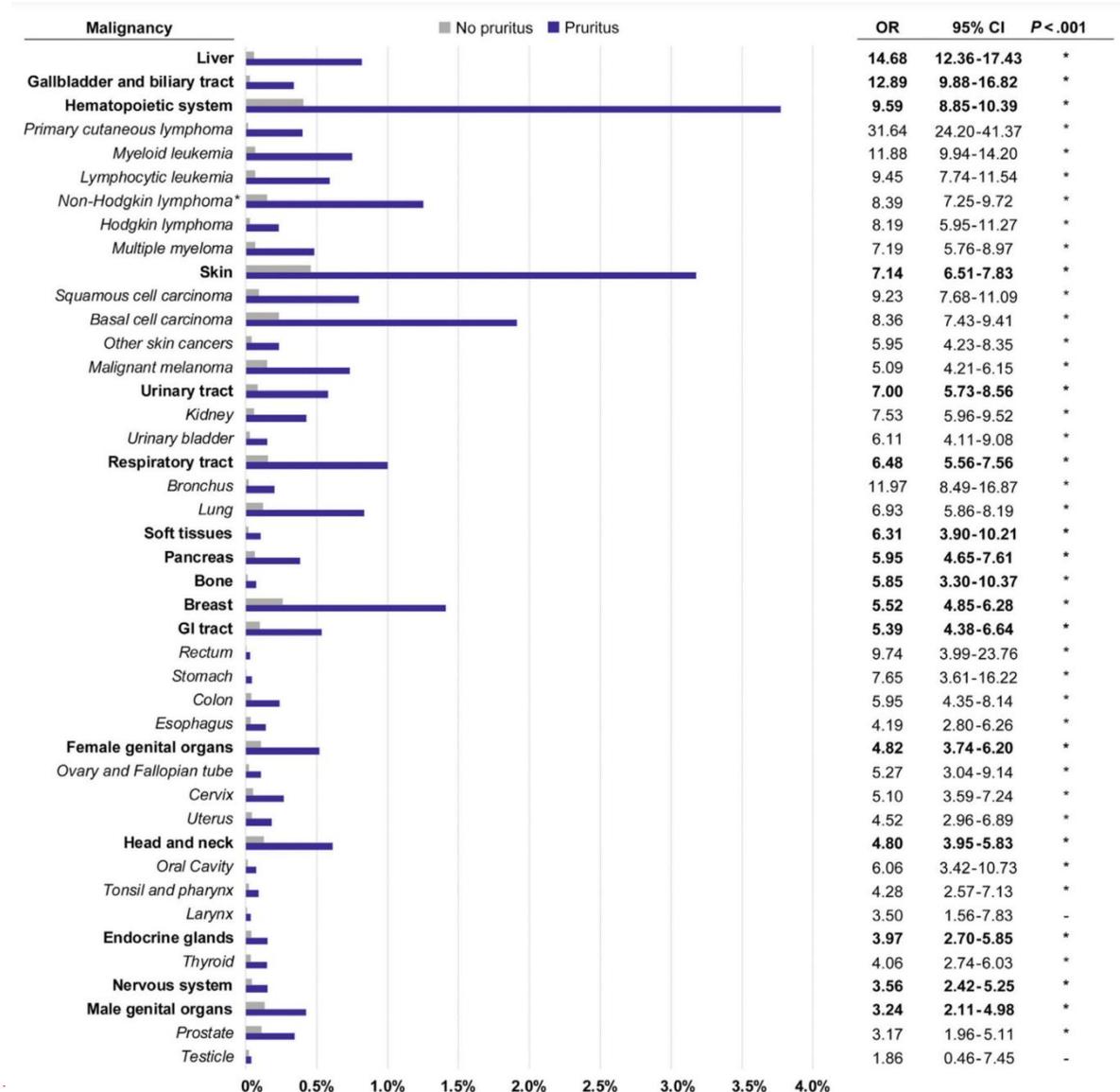
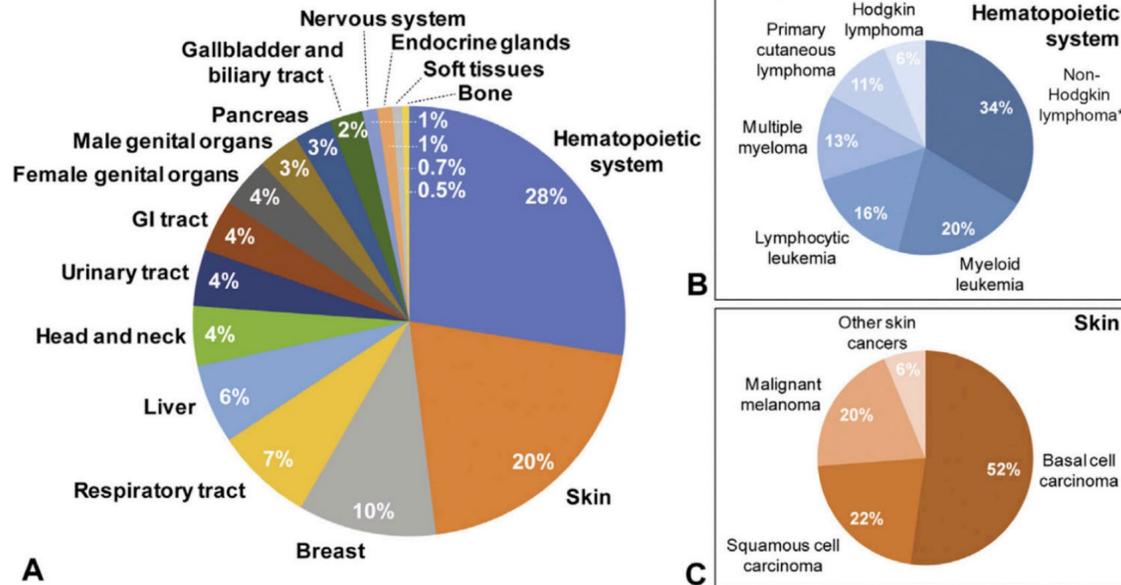
**Hepatobiliary cancers**



**Diagnostic workup**

- Liver function tests
- Abdominal ultrasound

## Distribution of malignancy among patients with pruritus





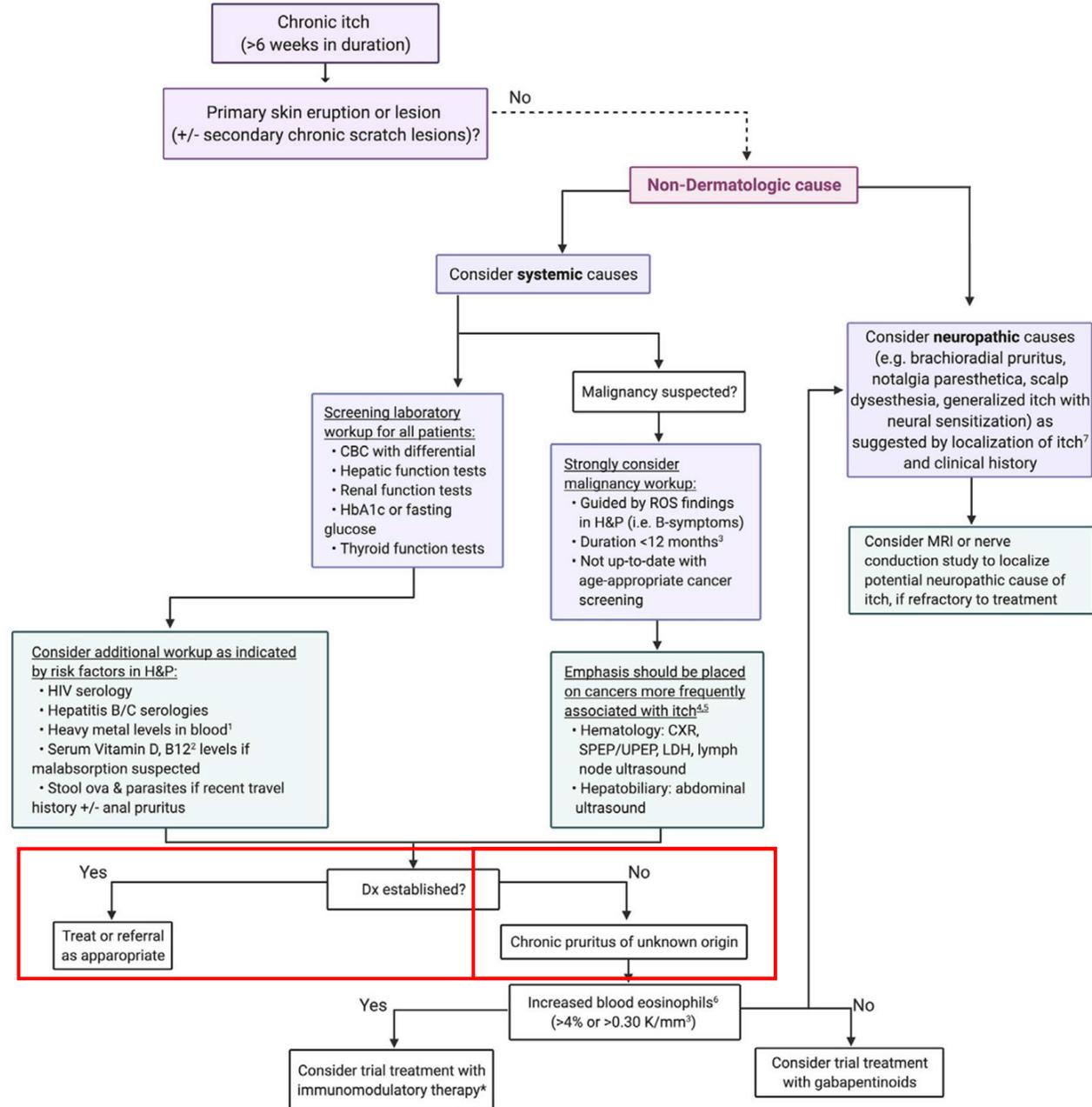
# 71-year-old female with generalized pruritus

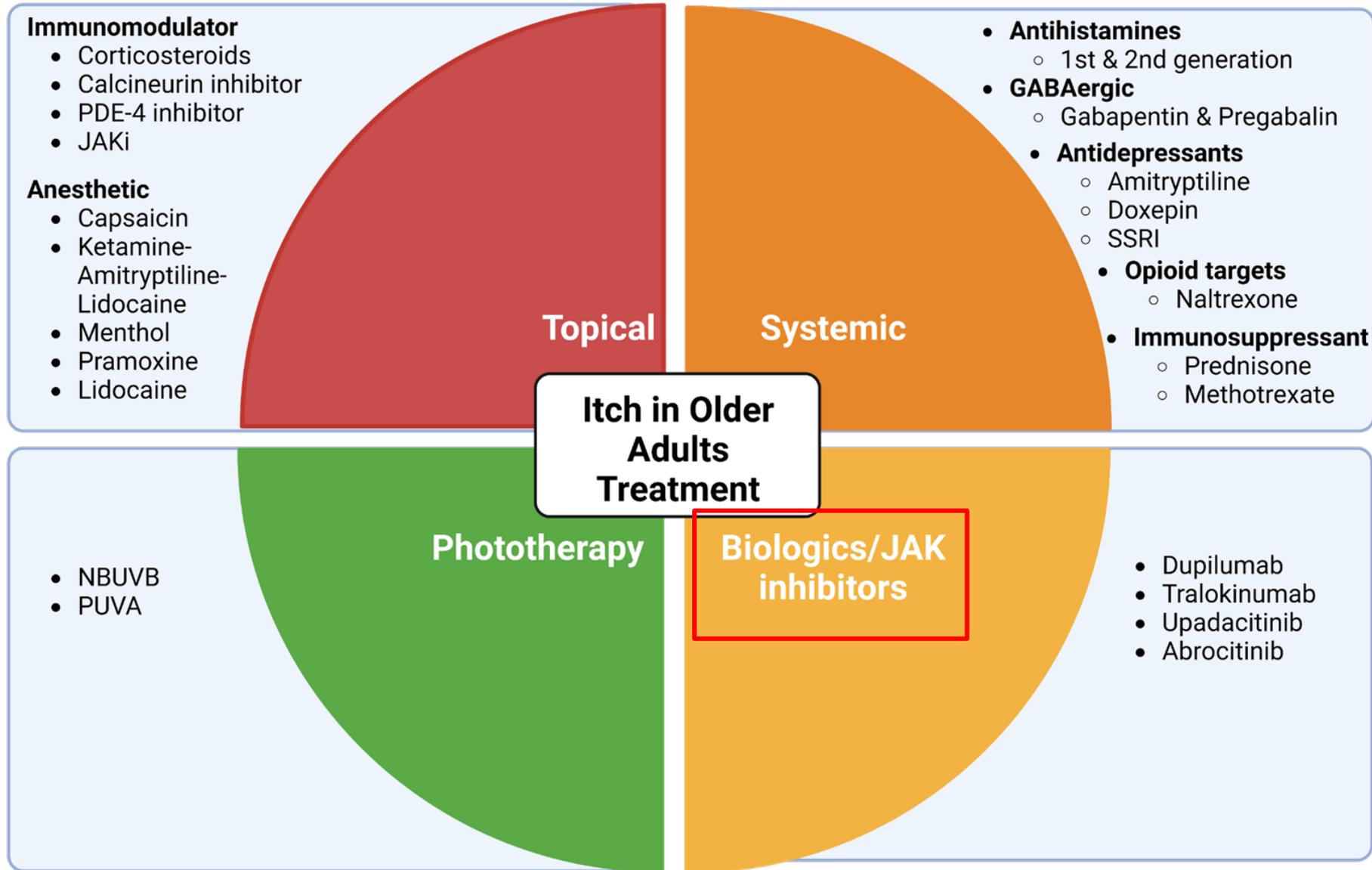
## Malignancy workup

- Negative
- Up-to-date on age-appropriate cancer screening

## Diagnosis

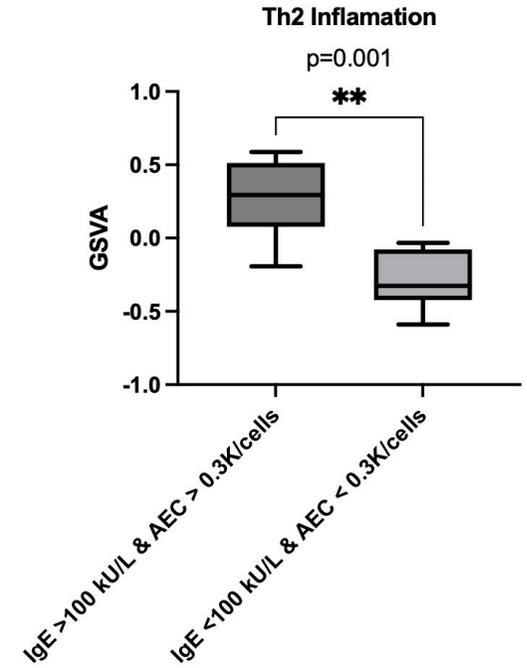
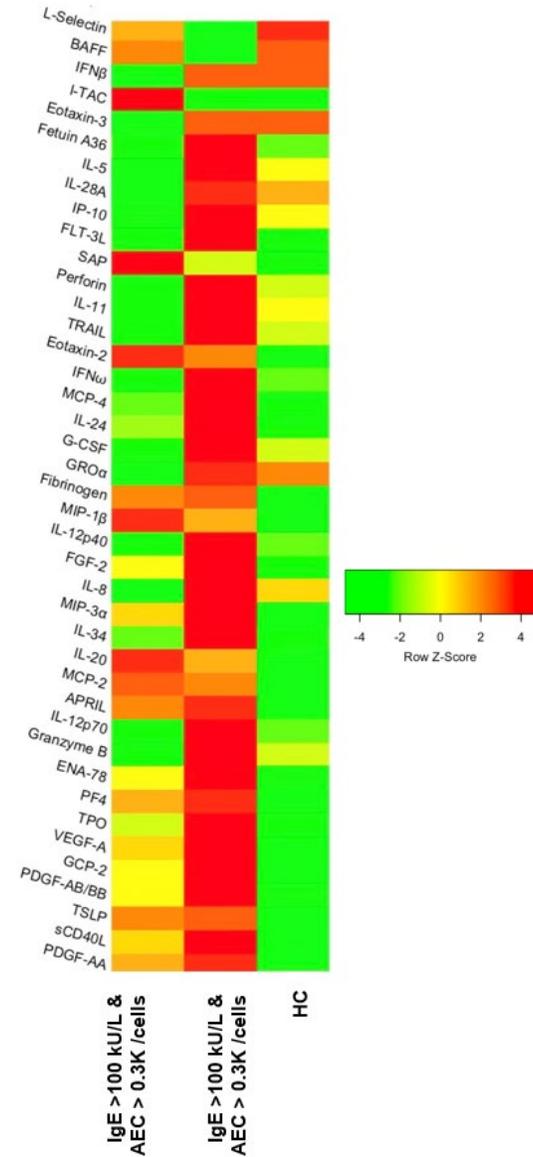
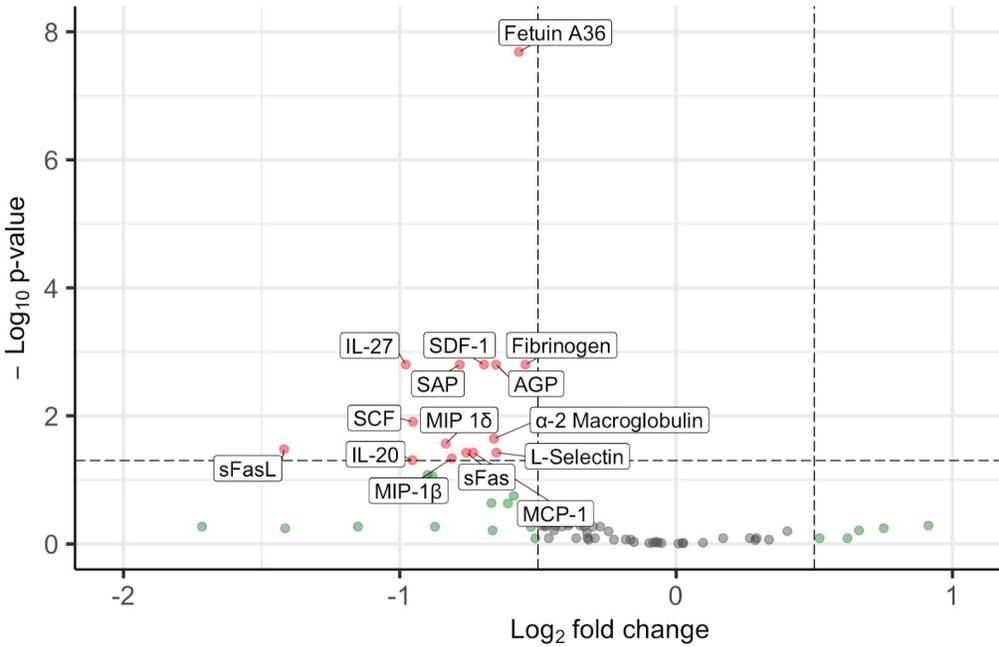
- Chronic pruritus of unknown origin





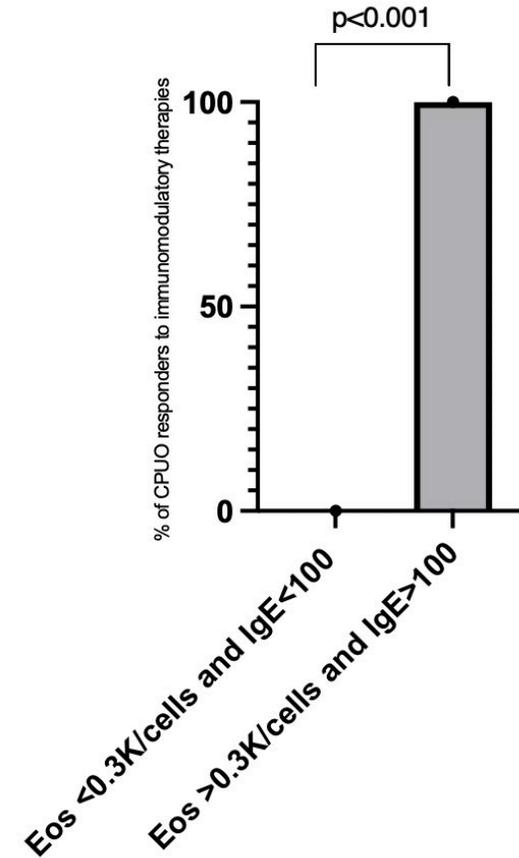
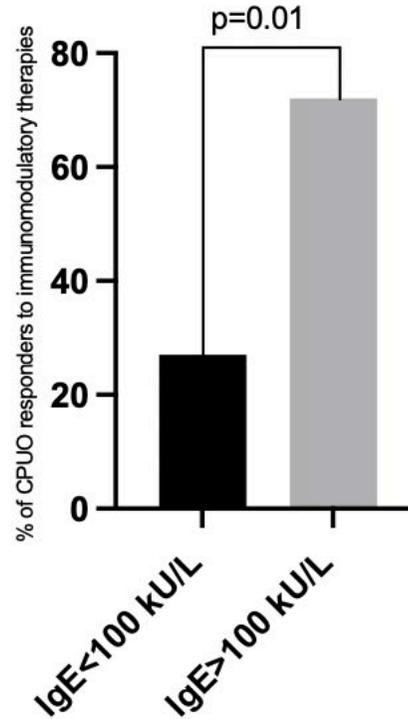
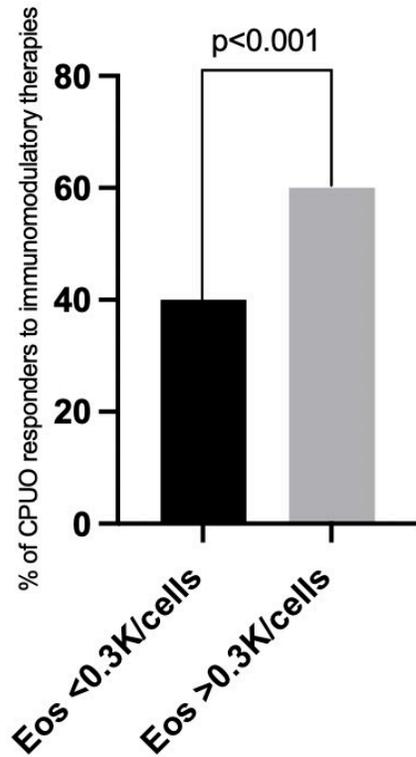


# IgE and Eosinophils as biomarkers of Type 2 Inflammation in CPUO





# IgE and Eosinophils as predictors of immunomodulatory response in CPUO





# 71-year-old female with generalized pruritus

## Clinical course

- Started dupilumab 600 mg subq loading dose followed by 300 mg subq every 14 days
  - WI-NRS 0 at two-month follow-up



NIH U.S. National Library of Medicine

*ClinicalTrials.gov*

[Home](#) > [Search Results](#) > Study Record Detail

Save this study

**Efficacy and Safety of Subcutaneous Dupilumab for the Treatment of Adult Participants With Chronic Pruritus of Unknown Origin (CPUO) (LIBERTY-CPUO-CHIC)**



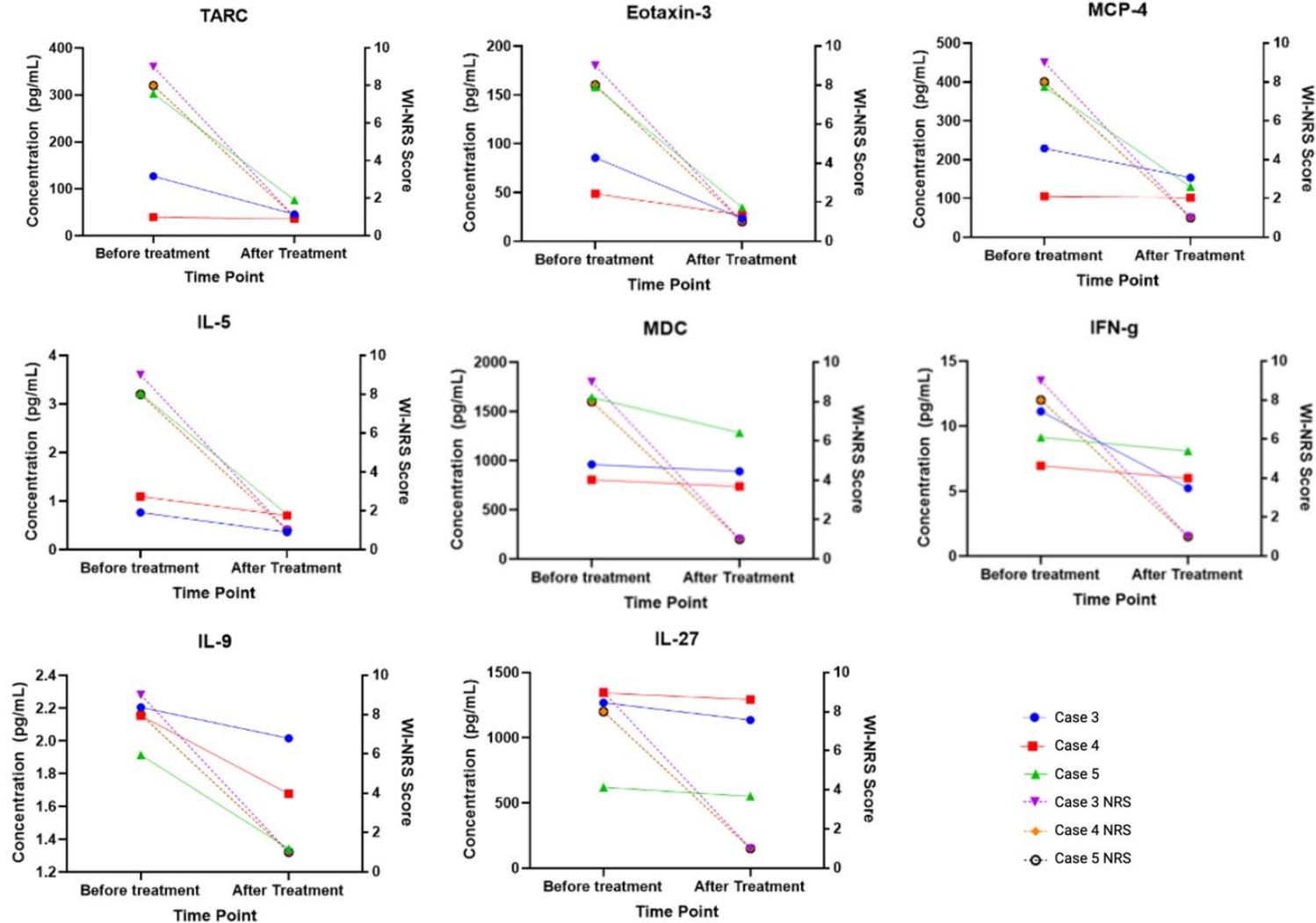


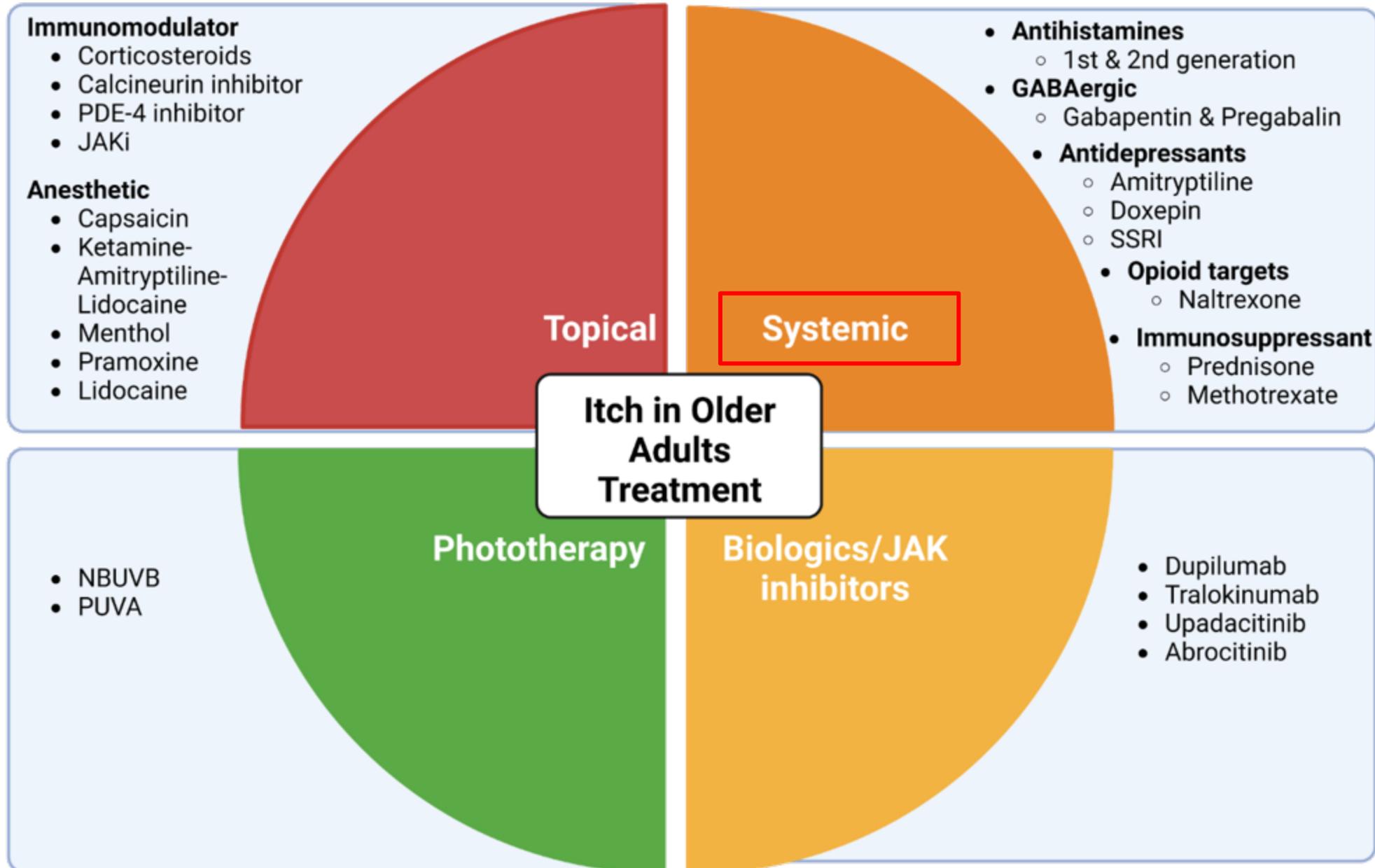
# Response to dupilumab among CPUO patients

	Case 1	Case 2	Case 3	Case 4	Case 5
<b>Basic Information</b>					
<b>Age</b>	74	81	73	87	89
<b>Sex</b>	Female	Female	Male	Male	Female
<b>Race</b>	White	White	White	White	White
<b>Tried Medications</b>	Topical steroids, antihistamines doxepin, prednisone, phototherapy	Topical steroids, methotrexate, prednisone	Prednisone, triamcinolone	None	Topical steroids, antihistamines, prednisone, gabapentin
<b>Clinical Presentation</b>					
<b>Symptoms</b>	Generalized rash with itching on torso and extremities for 2 years	Generalized rash with itching on torso and extremities for 2 years	Generalized rash and itching on torso and extremities for 4 years	Generalized rash and itching on torso and extremities for several years	Generalized rash and itching on torso and extremities for several years
<b>Atopy</b>	Yes	Yes	Yes	No	Yes
<b>Myelopathy</b>	No	No	No	No	No
<b>Biopsy</b>	Subacute spongiotic dermatitis with eosinophils, consistent with eczematous dermatitis	Mild subacute eczematous dermatitis	N/A	N/A	N/A
<b>Treatment Length</b>	4 months	1 month	8 months	5 months	2 months
<b>Initial WI-NRS</b>	8	10	9	8	8
<b>Final WI-NRS</b>	4	3	1	1	1
<b>Serum Levels</b>					
<b>IgE</b>	701	N/A	N/A	831	42
<b>Eos % (before)</b>	3.8	5.5	6.3	3	4.1
<b>Eos % (after)</b>	N/A	0.9	4	0.7	N/A
<b>Eos abs (before)</b>	0.23	0.55	0.5	0.2	0.14
<b>Eos abs (after)</b>	N/A	0.11	0.3	0.05	N/A



# Plasma cytokine profile alterations in CPUO patients following Dupilumab treatment







## Case #2

### Patient presentation

- 72-year-old African American female with total body itch for 2 years (worse on back)
- Itch assessment: WI-NRS 10

**PMH:** Seasonal allergies, thyroid disease, hypertension

**Previous therapies:** prednisone, antihistamines, IMK, topical steroids and gabapentin

### Labs:

IgE: 447 (High)

Eos: 4.9% (High)





# | 71-year-old female with generalized pruritus

## Clinical course

- Started MTX 12.5mg/weekly
  - WI-NRS 0 at eight-month follow-up





## Case #3

- 65-year-old Caucasian male with metastatic melanoma
- Reports 6-month history of itching that started 3 weeks after pembrolizumab dose and has not gone away
- Itch assessment: WI-NRS 10

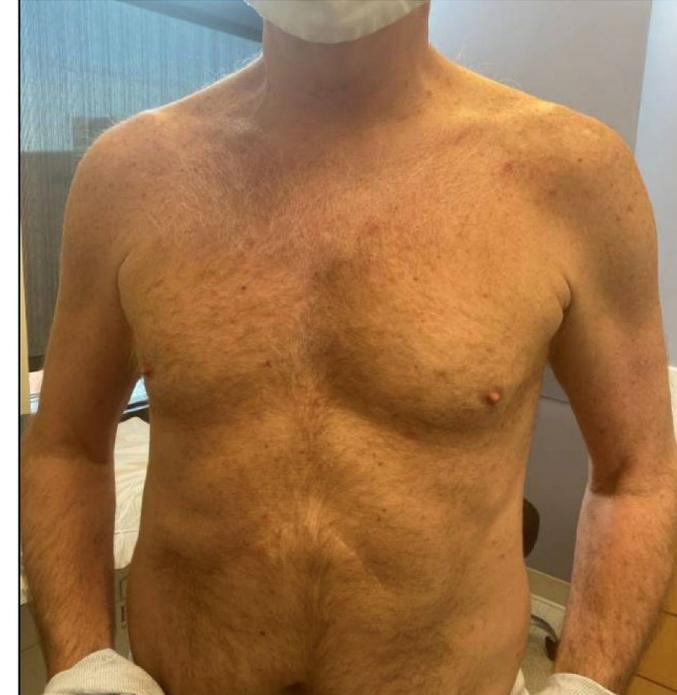
**PMH:** Psoriasis

**Previous therapies:** Antihistamines and topical steroids

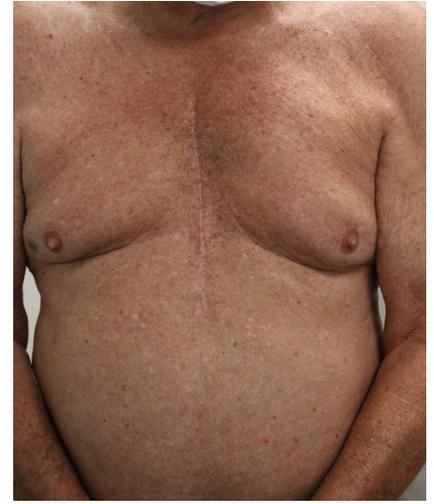
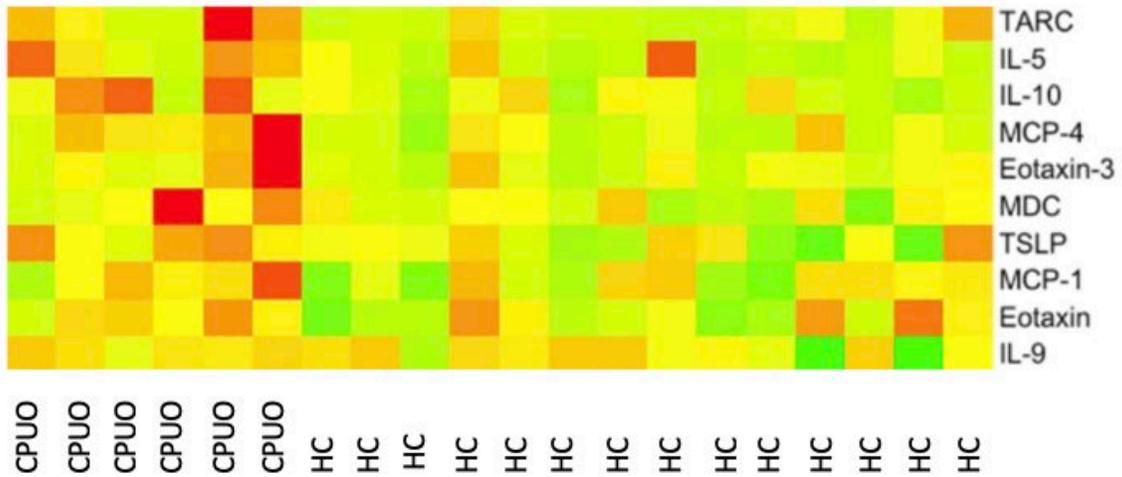
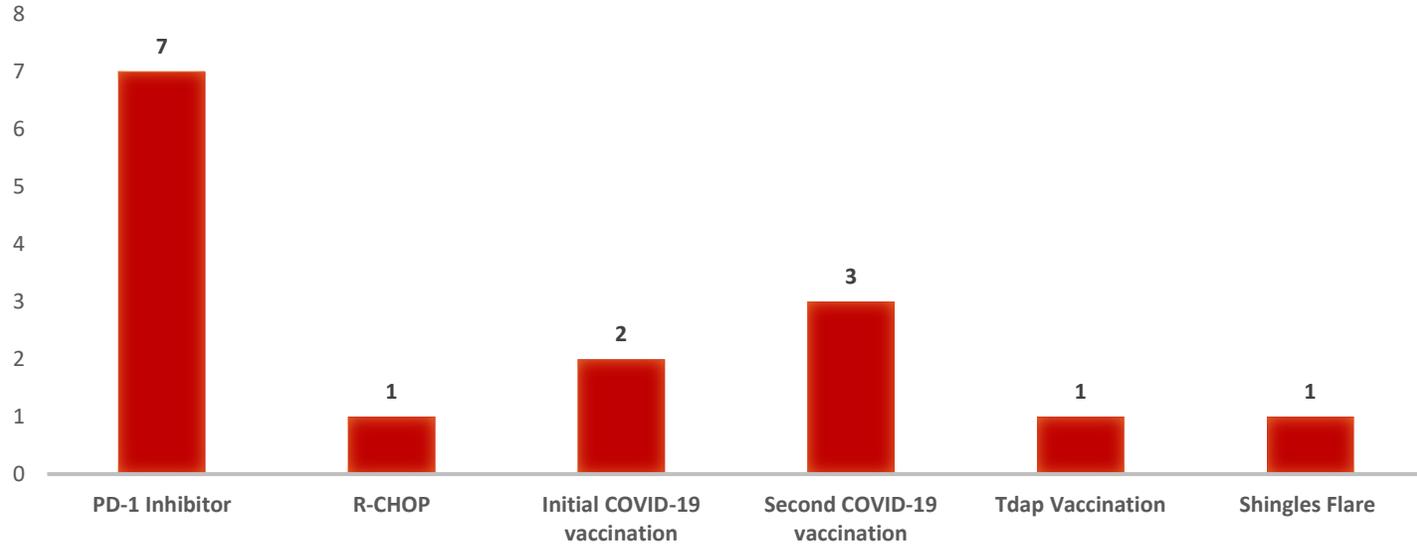
**Current therapies:** Topical steroids, antihistamines

**Labs:**

**CBC:** IgE: 1350 and Eos: 4.5% (Elevated)



# Immune-Stimulated Chronic Pruritus



Manjunath et al, Kwatra SG. *JAAD International*. 2024.

# | Immune-Stimulated Chronic Pruritus

**Treatment:** Dupilumab 600 mg subq loading dose followed by 300 mg subq every 14 days

**Clinical course:**

- WI-NRS 0 at four-month follow-up







## Case #4

### Patient presentation

- 78-year-old African American female
- Total body itch for 20 years
- Has a history lower back pain for which she has received spinal injections in the past
- Worst affected areas are the back and legs, and is worse at night
- Itch assessment: WI-NRS 10/10

**PMH:** Lower back pain

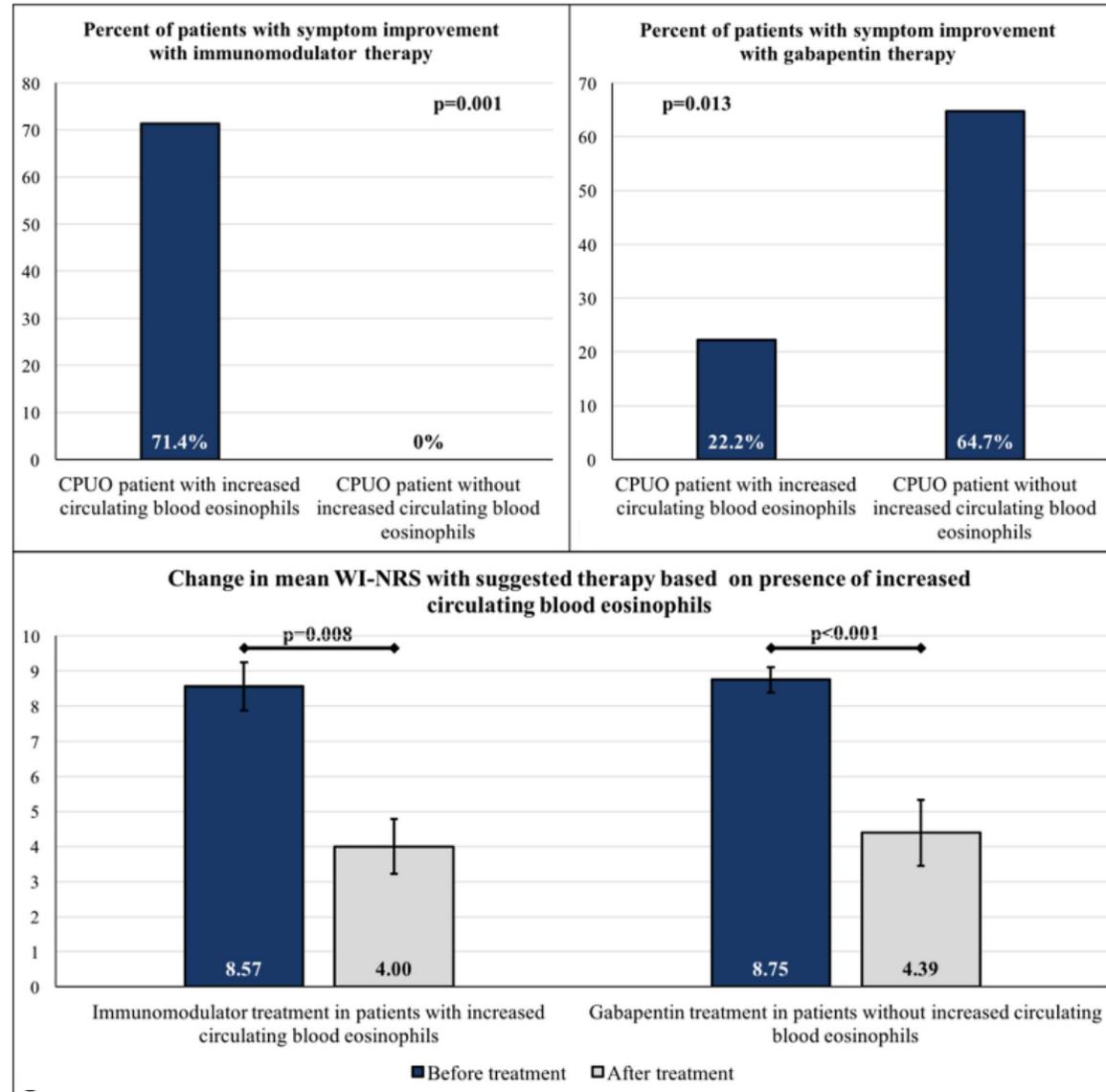
**Previous therapies:** Topical steroids, doxepin 10mg TID, hydroxyzine 25mg TID

**Labs:** IgE and Eosinophil counts within normal limits





# Immune and Neural Endotypes in CPUO





## 8 month follow up

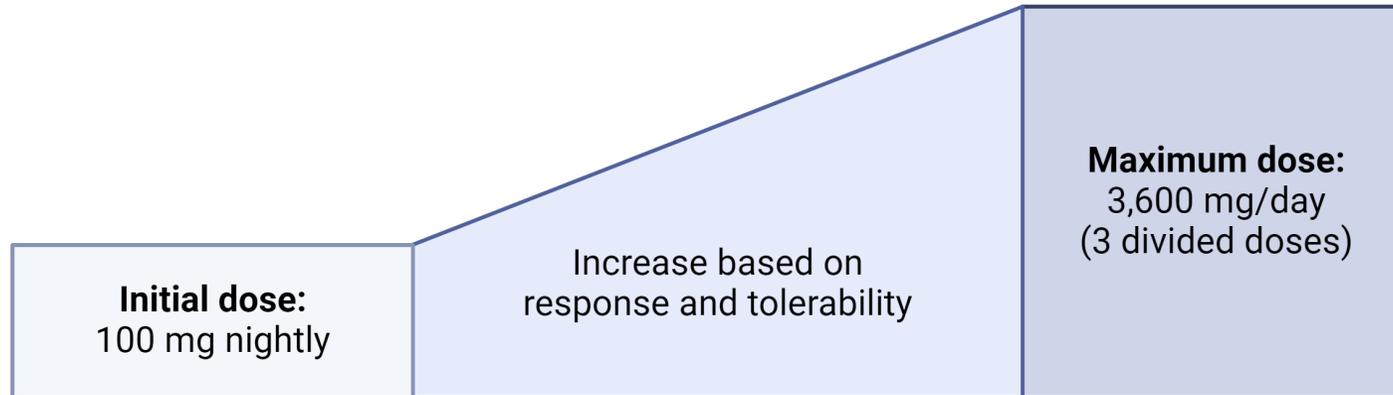
### Clinical Course:

- Patient reported satisfactory improvement in itch and skin appearance
- WI-NRS 0/10



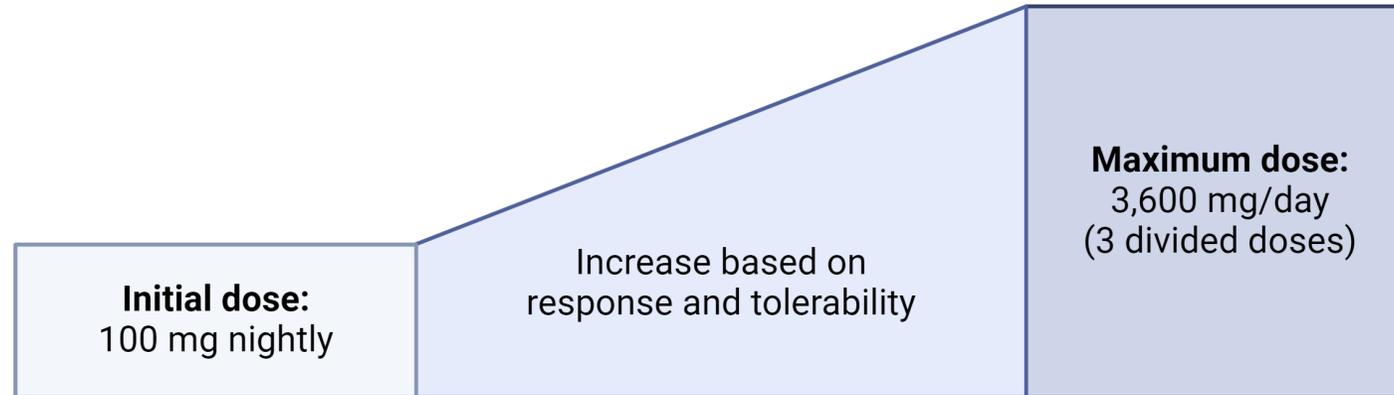


## Gabapentin for Chronic Pruritus in Adults





## Gabapentin for Chronic Pruritus in Adults



**Counsel on potential side effects**  
CNS depression: Dizziness, drowsiness, respiratory depression  
Peripheral edema, headache, mood changes, GI symptoms, tremor, infection

**Dose adjustments**  
Renal impairment  
Hepatic impairment



## Gabapentin for Chronic Pruritus in Adults

### Precautions

- Renal impairment
- Substance abuse
- Drug interactions

**Initial dose:**  
100 mg nightly

Increase based on  
response and tolerability

**Maximum dose:**  
3,600 mg/day  
(3 divided doses)

### Counsel on potential side effects

CNS depression: Dizziness, drowsiness, respiratory depression  
Peripheral edema, headache, mood changes, GI symptoms, tremor, infection

### Dose adjustments

Renal impairment  
Hepatic impairment

### Avoid abrupt discontinuation

- Withdraw therapy gradually over  $\geq 1$  week



## Case #5

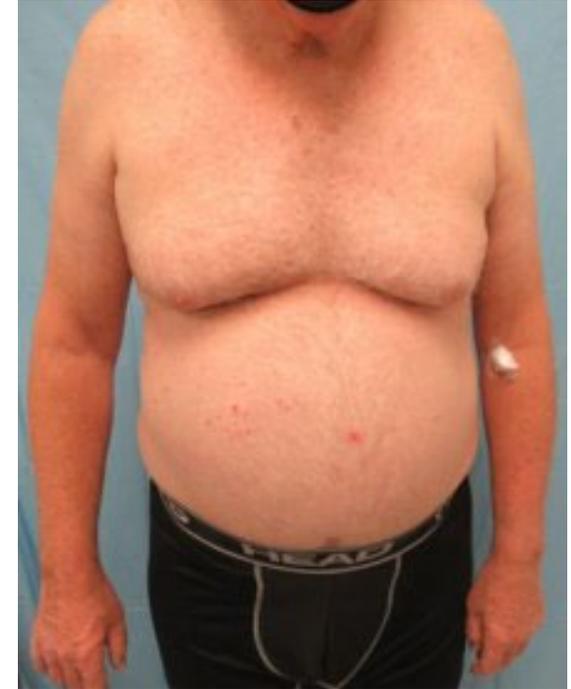
### Patient presentation

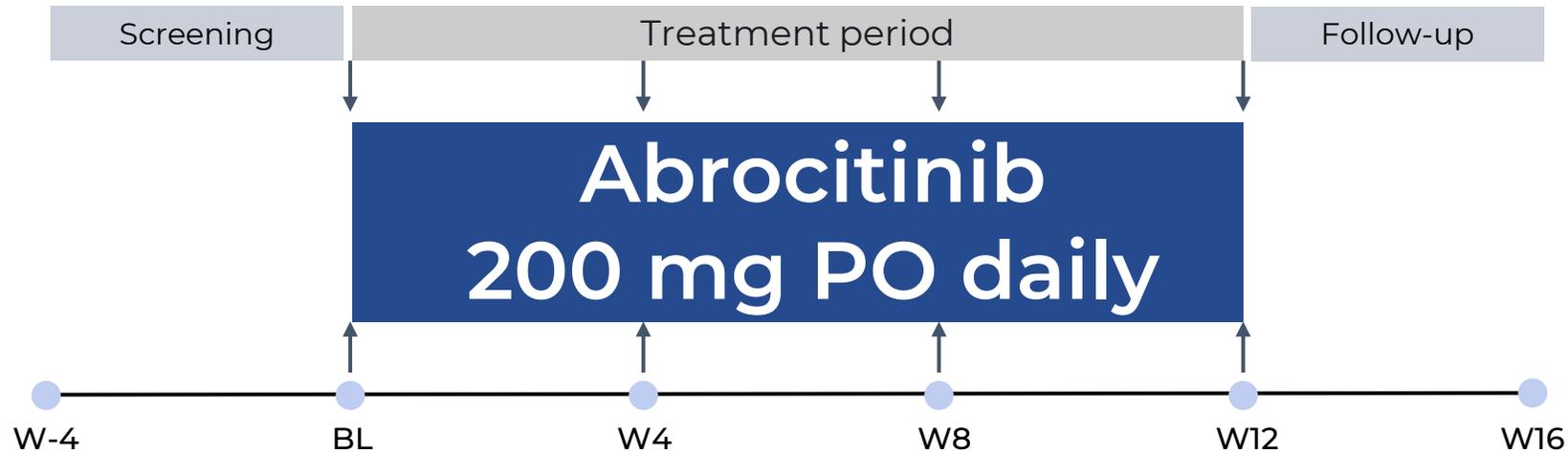
- 73-year-old white male with total body itch for 1.5 years
- Predominantly affects upper extremities
- Itch assessment: WI-NRS 10

**PMH:** Ascending aortic aneurysm, HLD, HTN

**Previously failed therapies:** Dupixent (>6 months), topical steroids (clobetasol, lidex, tacrolimus, antihistamines)

**Labs:** IgE: 456 (elevated) and %Eos: 11.7% (elevated)





## Select eligibility criteria

### • Inclusion criteria

- Adults (18-80 years) with PN or CPUO
- PN:  $\geq 10$  pruritic nodules on  $\geq 2$  anatomic locations
- CPUO: Itch on  $\geq 2$  body segments for  $\geq 6$  weeks with no known dermatologic or systemic cause
- Peak Pruritus Numerical Rating Scale (PP-NRS)  $\geq 7$

### • Exclusion criteria

- Chronic pruritus resulting from another active condition other than PN or CPUO
- Use of a JAK inhibitor in the past 12 weeks
- Active primary or recurrent malignant disease
- History of lymphoproliferative disorder





# Study Objective and Endpoints

## Objective

Assess the efficacy and safety of abrocitinib monotherapy in PN and CPUO patients  $\geq 18$  years of age after a 12-week treatment period

### Primary efficacy endpoint

- Percent change from baseline in weekly PP-NRS at week 12

### Select secondary efficacy endpoints

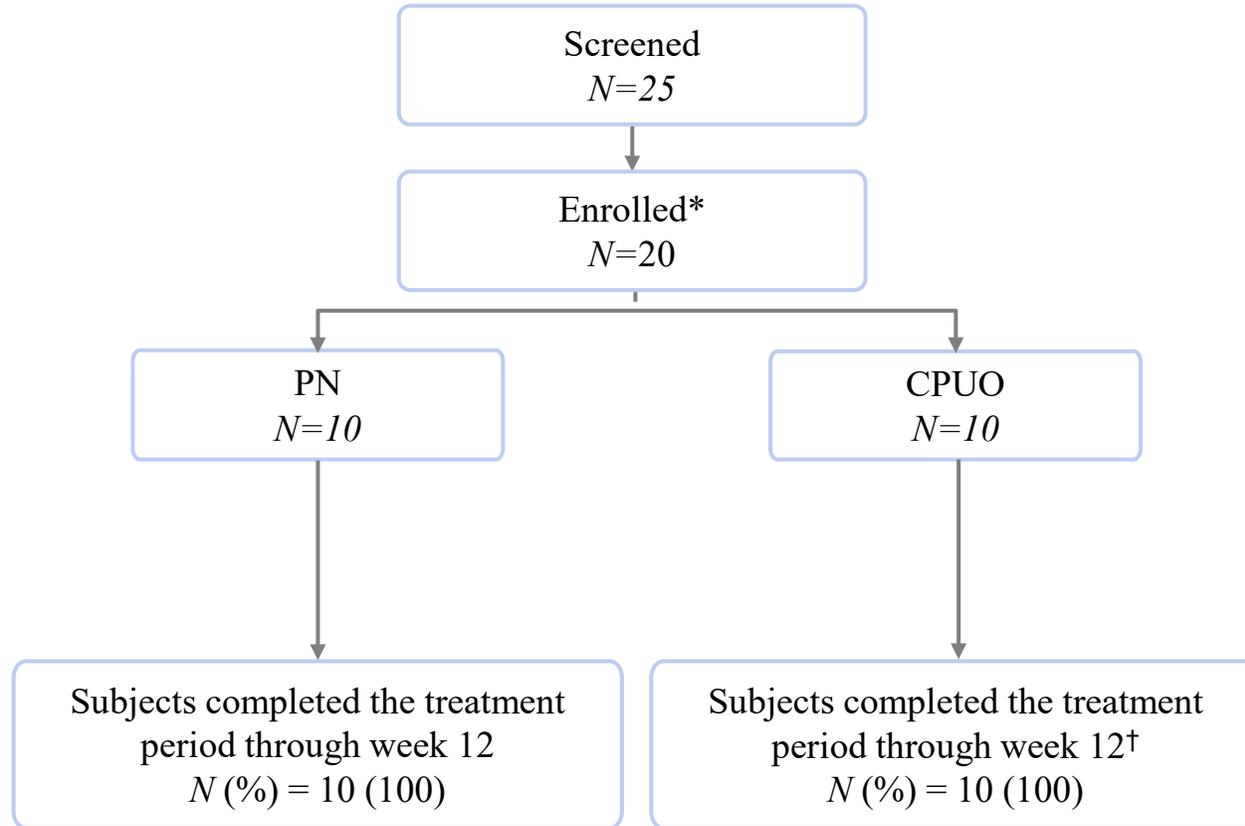
- Proportion of subjects with a  $\geq 4$ -point improvement from baseline to week 12 in:
  - PP-NRS
  - Sleep Disturbance Numerical Rating Scale (SD-NRS)
- Change from baseline to week 12 in Prurigo Activity Score (PAS)
- Change from baseline to week 12 in Dermatology Life Quality Index (DLQI) scores
- Change from baseline to week 12 in Th1, Th2, Th17, and Th22 gene set variation analysis (GSVA) scores

### Safety endpoints

- The incidence and severity of adverse events



# Patient Disposition





# Chronic pruritus of unknown origin\*



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# Baseline Demographics and Characteristics

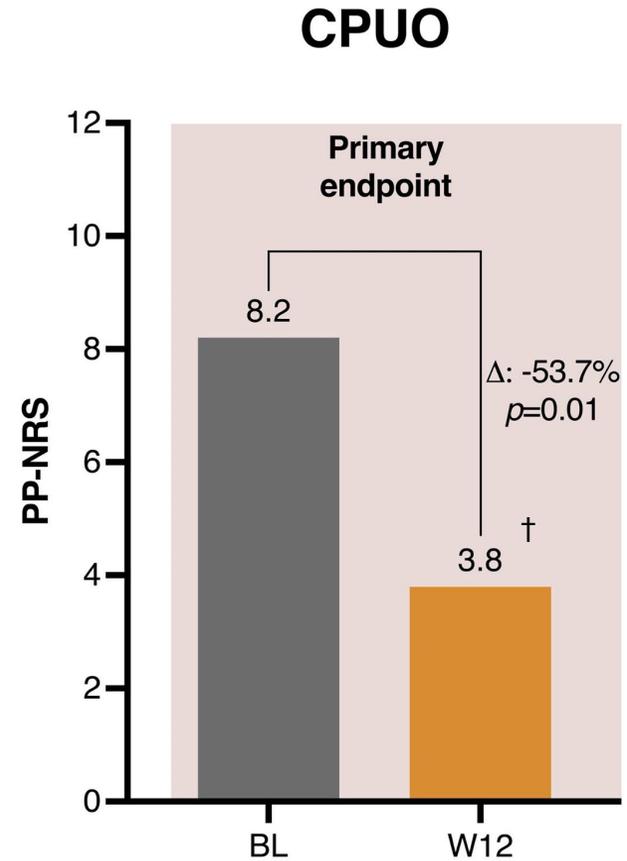
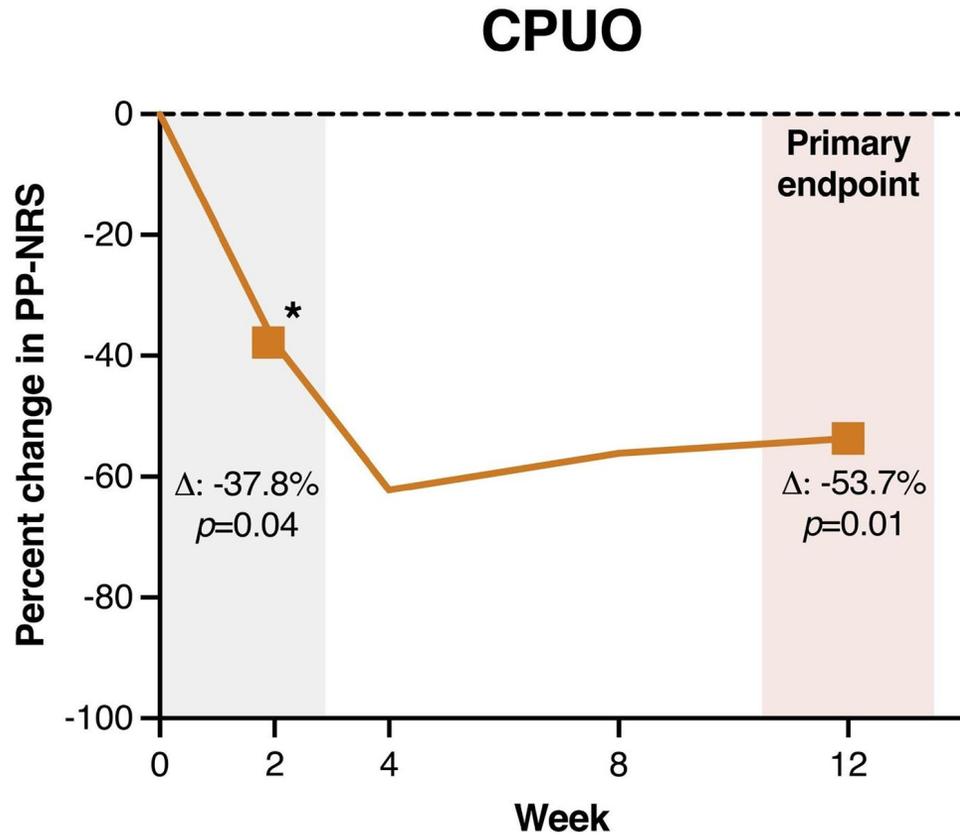
Characteristic	CPUO (n=10)
<b>Age (years)</b>	
Mean $\pm$ SD	70.7 $\pm$ 5.6
Range	62-78
<b>Female, n (%)</b>	2 (20)
<b>Race, n (%)</b>	
Caucasian/White	10 (100)
African American/Black	0
<b>PP-NRS, mean <math>\pm</math> SD</b>	8.2 $\pm$ 1.2
<b>PN IGA, mean <math>\pm</math> SD</b>	N/A

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PN, prurigo nodularis; CPUO, chronic pruritus of unknown origin; SD, standard deviation; n, number of patients; PP-NRS, peak pruritus numerical rating scale; IGA, Investigator Global Assessment; N/A, not applicable.  
\*Baseline was defined as the start of abrocitinib treatment.



# Significant Improvement in Itch



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PN, prurigo nodularis; CPUO, chronic pruritus of unknown origin; PP-NRS, peak pruritus numerical rating scale; BL, baseline; W, week.

Percent change shown is least square mean percent change to account for missing data or unbalanced design.

\*Baseline was defined as the start of abrocitinib treatment.

†P-values are from a 2-way ANOVA of the response variable (PP-NRS percent reduction) and classification variables (whether the patient has PN or CPUO and week of treatment) (intention-to-treat population)



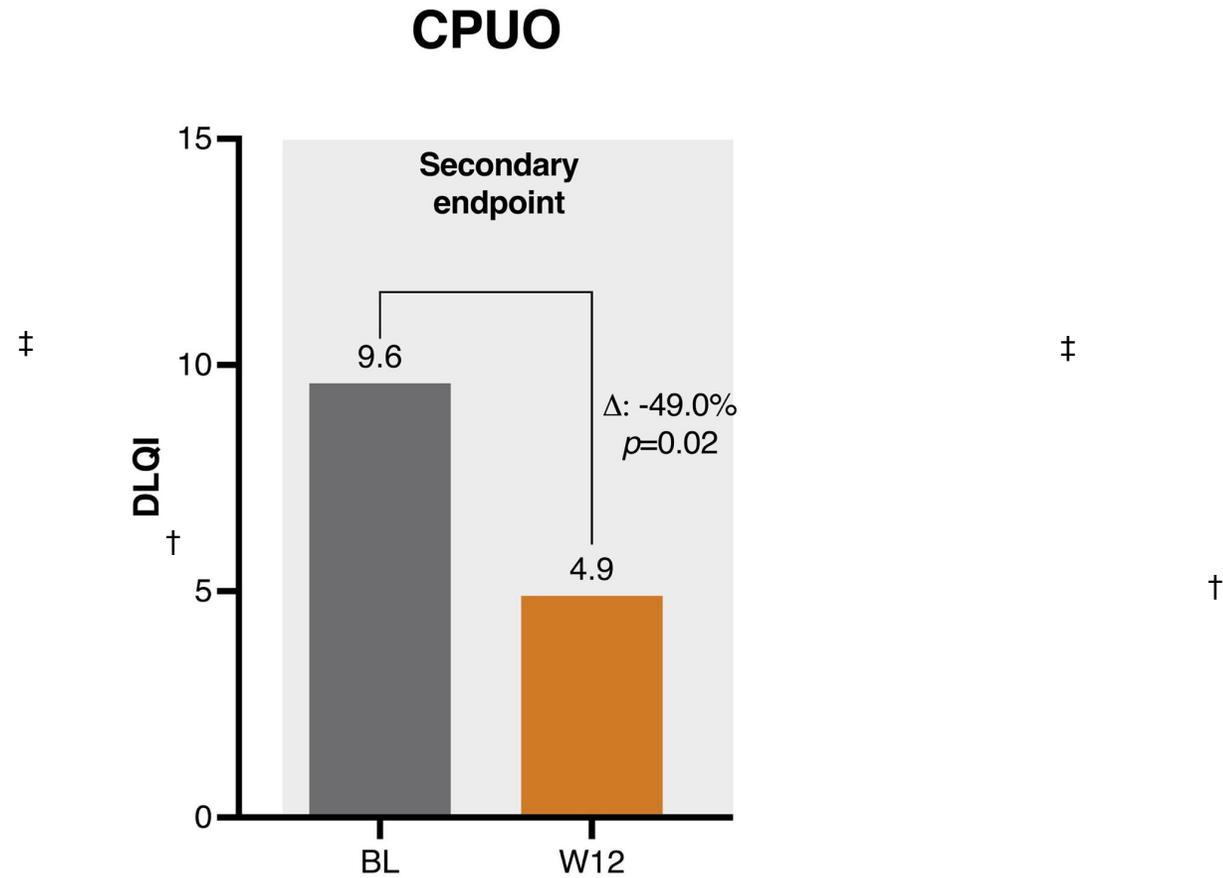
# Improvements in Itch and Sleep

Endpoint	CPUO (n=10)
<b>≥4-point improvement in PP-NRS from baseline to Week 12 (%)</b>	60%
<b>≥4-point improvement in SD-NRS from baseline to Week 12 (%)</b>	30%

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# Improvements in Quality of Life



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DLQI, dermatology life quality index; PN, prurigo nodularis; CPUO, chronic pruritus of unknown origin;; BL, baseline; W, week.  
‡Multiple imputation was utilized to account for missing data with values assumed to be missing at random.  
\*Baseline was defined as the start of abrocitinib treatment.  
†P-values are from a Wilcoxon test.



# Safety: Summary of Adverse Events

	CPUO (n=10); n (%)
<b>Any serious TEAE</b>	0 (0)
<b>Any TEAE leading to study discontinuation</b>	0 (0)
<b>Any TEAE leading to death</b>	0 (0)
<b>TEAEs ≥5%</b>	
Headache	0 (0)
Nausea	0 (0)
Folliculitis (scalp)	1 (10)
Acneiform eruption	1 (10)
Sore throat	0 (0)
Herpes labialis	1 (10)
Nasal congestion	0 (0)

All TEAEs were mild and spontaneously resolved within 2 weeks.  
There were no interruptions in abrocitinib treatment due to TEAEs.

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# 73-year-old male enrolled in Phase 2 Abrocitinib clinical trial

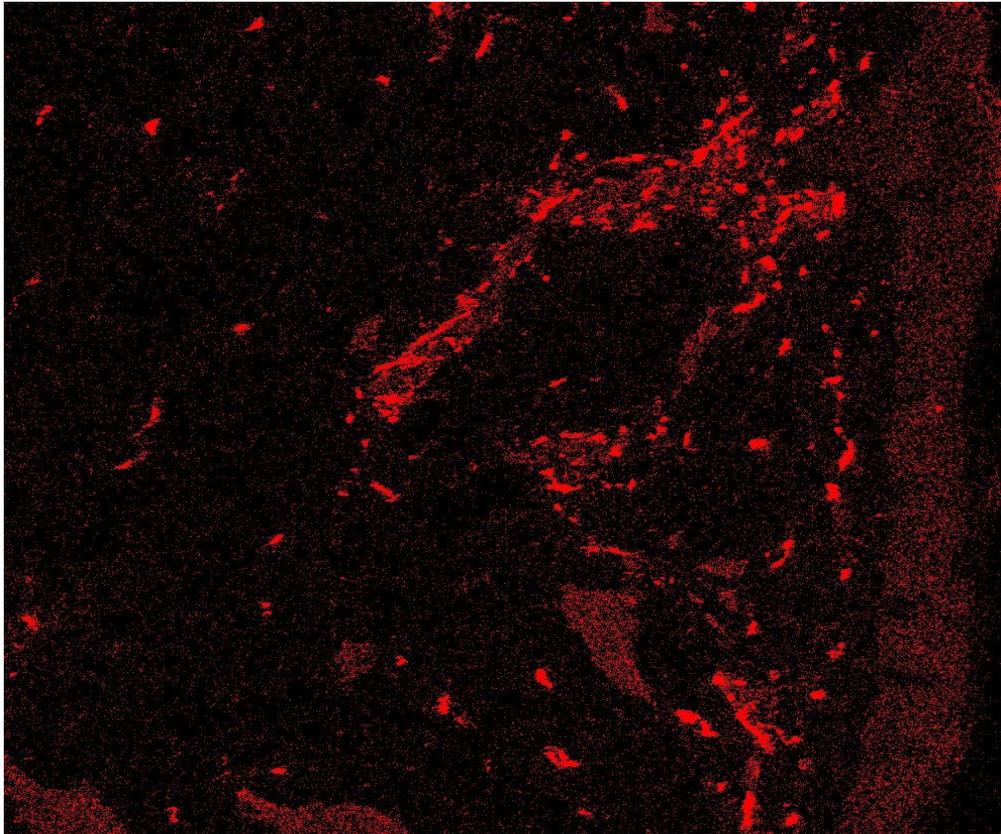
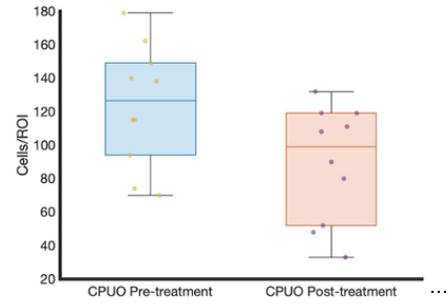
## Clinical Course:

WI-NRS decreased to 2 after 12 weeks of abrocitinib  
200 mg once daily

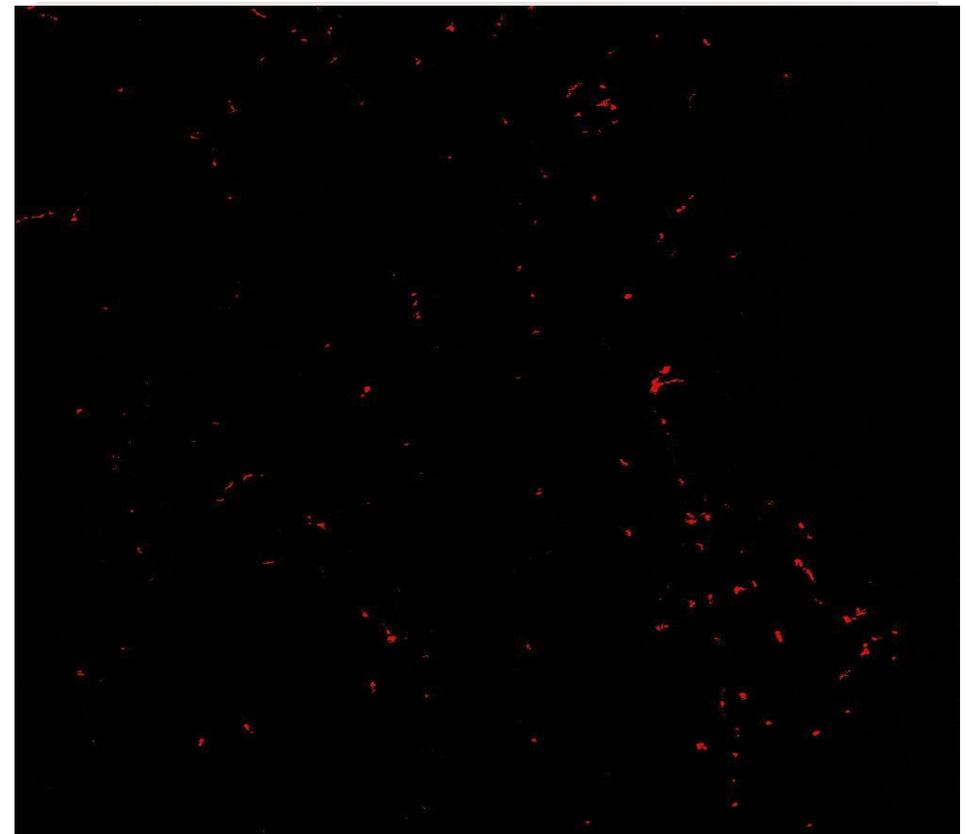




### CD163



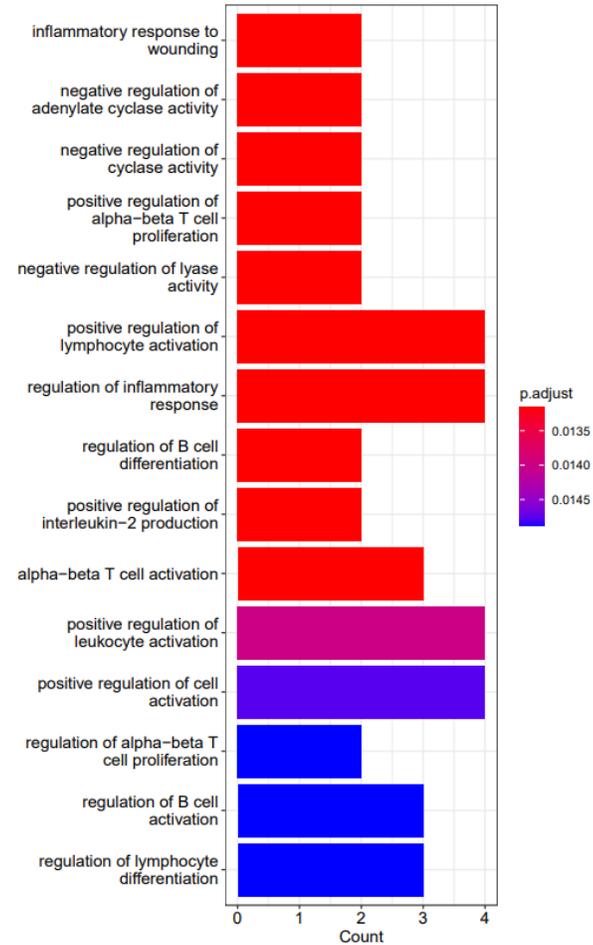
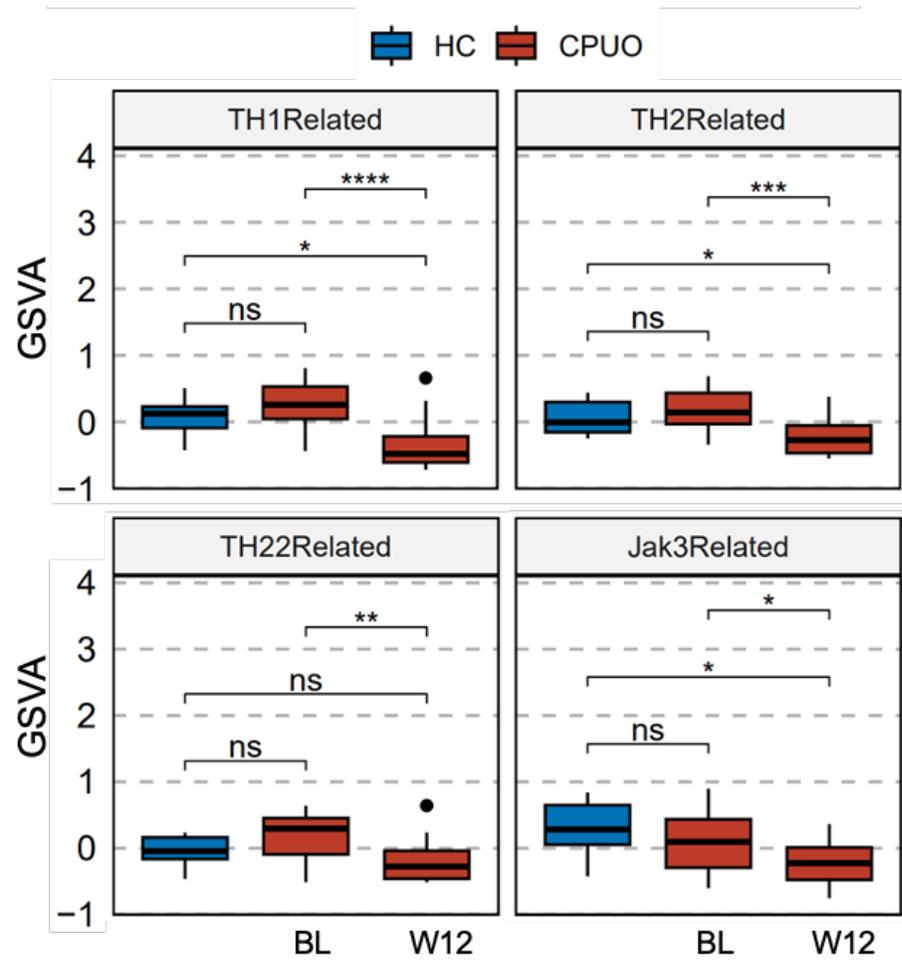
**BL**



**WK 12**



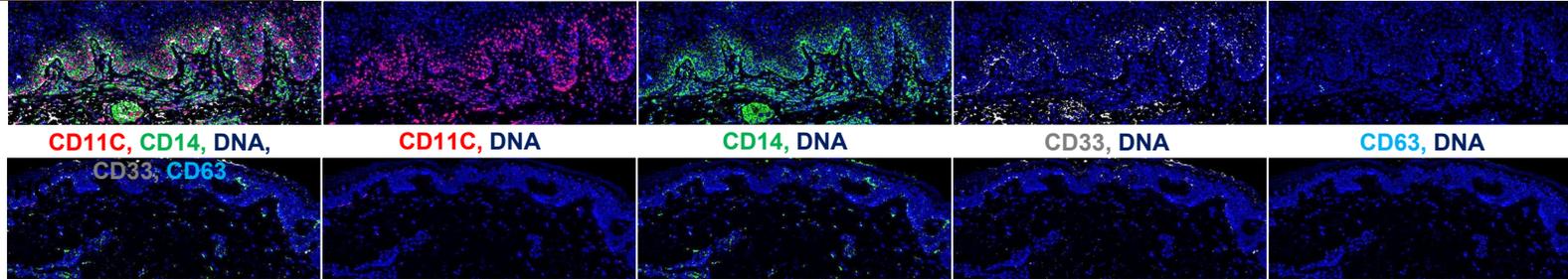
# Cutaneous Transcriptomic Analysis - CPUO





# The Maryland Itch Center

*Dedicated to providing expert-level comprehensive care for patients with chronic pruritic skin conditions.*



CD11C, CD14, DNA, CD33, CD63 | CD11C, DNA | CD14, DNA | CD33, DNA | CD63, DNA | CD11C, CD14, DNA, CD33, CD63 | CD11C, DNA | CD14, DNA | CD33, DNA | CD63, DNA



ORIGINAL ARTICLE

### Phase 3 Trial of Nemolizumab in Patients with Prurigo Nodularis

S.G. Kwatra, G. Yosipovitch, F.J. Legat, A. Reich, C. Paul, D. Simon, L. Naldi, C. Lynde, M.S. De Bruin-Weller, W.K. Nahm, M. Sauder, R. Gharib, S. Barbarot, J.C. Szepletowski, C. Conrad, A. Fleischer, V.T. Laquer, L. Misery, E. Serra-Baldrich, H. Lapeere, F. Ahmad, Z.K. Jabbar Lopez, C. Piketty, and S. Ständer, for the OLYMPIA 2 Investigators\*

nature medicine

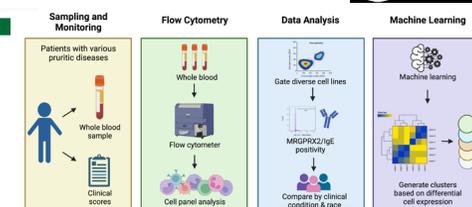
### Dupilumab in patients with prurigo nodularis: two randomized, double-blind, placebo-controlled phase 3 trials

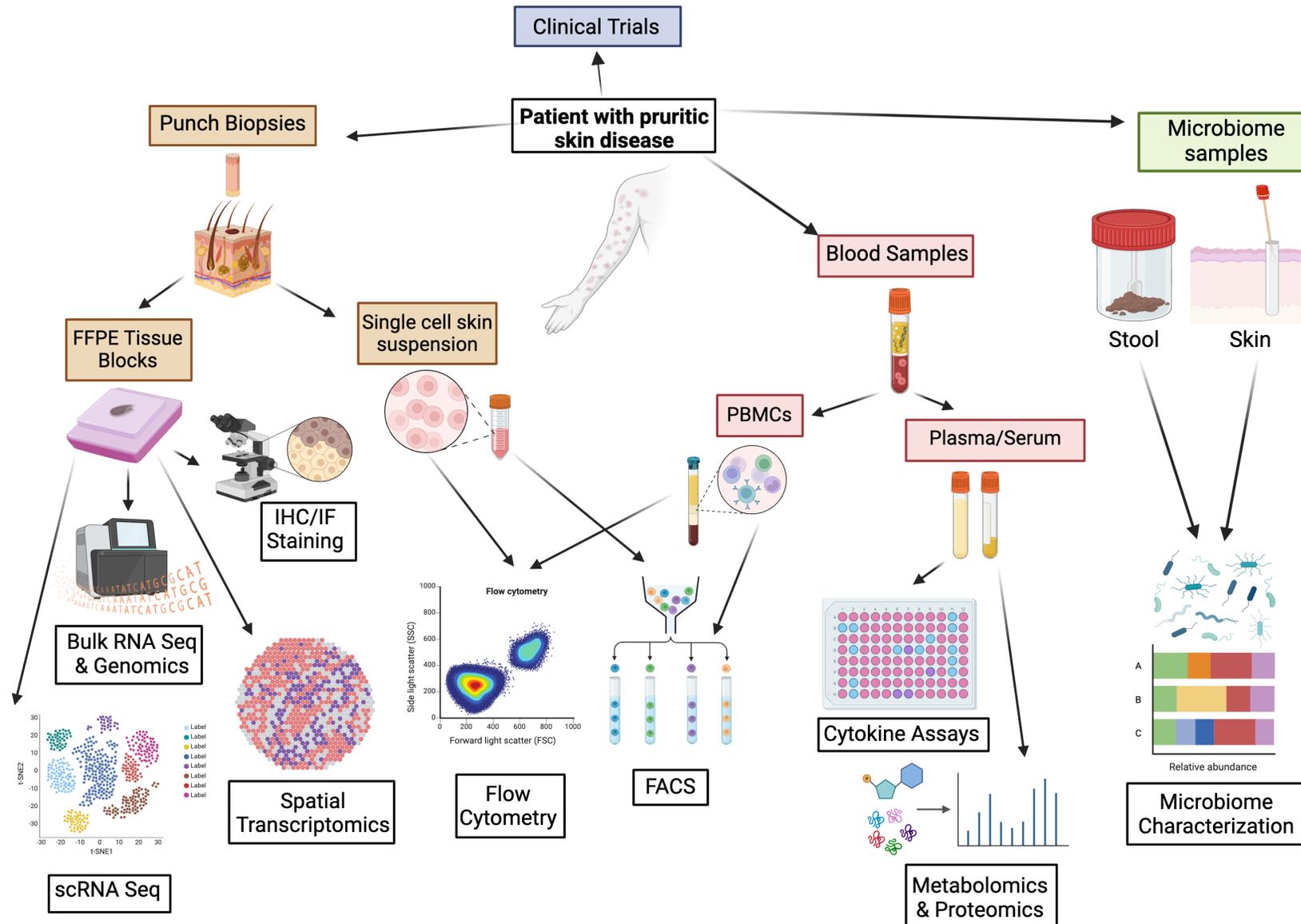
Received 23 December 2022 | Accepted 24 March 2023 | Published online 4 May 2023 | Check for updates

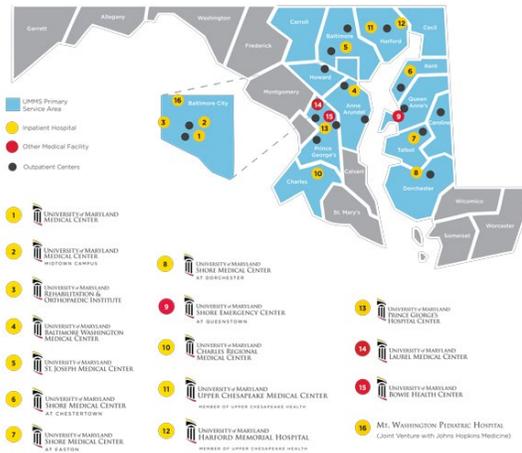
Research

### Efficacy and Safety of Abrociclib in Prurigo Nodularis and Chronic Pruritus of Unknown Origin: A Nonrandomized Controlled Trial

Shawn G. Kwatra, MD; Zachary A. Bordeaux, MD; Varsha Parthasarathy, MD; Alexander L. Kolhof, MD; Ali Alajmi, MD; Thomas Pritchard, MPH; Hannah L. Comman, BS; Anusha Kambala, BS; Kevin K. Lee, BA; Jaya Marjunath, BS; Emily Z. Ma, BA; Carly Dillen, PhD; Madan M. Kwatra, PhD







[skwatra@som.umaryland.edu](mailto:skwatra@som.umaryland.edu)







## Case #7

- 81-year-old Caucasian male presenting with 50 years of itching on bilateral distal feet
- Itch paroxysms last 4-5 minutes associated with burning
- Follows with neurology, has had nerve conduction tests consistent with small fiber neuropathy
- Itch assessment: WI-NRS 4/10

**PMH:** Psoriasis

**Previous therapies:** Gabapentin, low dose naltrexone, lidocaine patch, lidocaine cream, capsaicin cream

**No Labs or Biopsy obtained**







# Imaging: L-Spine MRI

## IMPRESSION:

1. Multilevel degenerative disc disease of the lumbar spine with mild spinal canal stenosis at L3-L4; multilevel mild-to-moderate neural foramina narrowings, from facet arthropathy, as above; severe narrowing of the left lateral recess at L4-L5 impinging on traversing left L5 nerve root.
2. Endplate edema and Modic changes at L4-L5 and L1-L2.
3. Chronic appearing compression fracture of L1 vertebral body without residual edema.
4. Mild-to-moderate symmetric paraspinal muscle atrophy





# Plan

Provided multiple options to try:

- Compounded amitriptyline 5%
- Gabapentin 10% cream
- Doxepin 5% cream
- Naltrexone 1% cream
- TENS unit to affected area
- Dronabinol 2.5 mg daily
- Pregabalin 25 mg daily
- Naltrexone 1.5 mg daily
- Continued OTC CeraVe with pramoxine



## | 2 month follow up

- Patient undergoing radiation treatment for prostate cancer and decided to defer topicals/orals for treatment of itch
- Using cerave anti-itch cream twice daily
- Has TENS unit at home
- Reports improved itch: WI-NRS: 1/10





## | 2 month follow up

Notes from the patient:

“The TENS machine I am using is the TENS 7000 which I bought on Amazon for about \$35. You will also need to buy extra pads.

The settings I use are:

Intensity: 4 or 5

Therapy Mode: Normal

Pulse Width: 57  $\mu$ S

Pulse Rate: 50 Hx

Timer: 12 min

I use the TENS once a day. I have a continuous low grade burning with a mild itch which occurs in both feet. What I cannot ignore is an extreme itch (level 10) that happens – always unilaterally and while I am sitting. After several weeks, the TENS machine is helping quite a lot. **Since using the TENS machine, I have had no Level 10 events.”**

