COMORBIDITIES

Jerry Bagel, MD MS
Psoriasis Treatment Center of Central New Jersey
I have the following financial relationships to disclose:

**Consultant for:** Abbvie, Amgen, Janssen, Boehringer Ingelheim, Leo, Celgene, Eli -Lilly, Novartis

**Speaker's Bureau for:** Amgen, Janssen, Abbvie, Leo, Celgene, Eli -Lilly, Novartis

**Research:** Amgen, Janssen, Abbvie, Leo, Celgene, Eli -Lilly, Novartis, Boehringer Ingelheim

**Employee of:** Windsor Dermatology, PC

I will not discuss off label use and/or investigational use in my presentation
Psoriasis

“I am silvery, scaly. Puddles of flakes form wherever I rest my flesh. Each morning, I vacuum my bed. My torture is skin deep; there is no pain, not even itching. We lepers live a long time, and are ironically healthy in other respects. Lusty, though we are loathsome to love. Keen-sighted, though we hate to look upon ourselves. The name of the disease, spiritually speaking, is ‘Humiliation’.”

John Updike
The Journal of a Leper
Plaque psoriasis

- Accounts for >80% of psoriasis cases
- "Plaques" can appear anywhere
- Most common sites:
  - Elbows
  - Knees
  - Lower back
  - Area around the umbilicus
  - Scalp
Extensive psoriasis
Inverse psoriasis

• Also known as flexural psoriasis
• Affects skin folds of body
  – Intergluteal cleft
  – Armpits
  – Groin
  – Under the breasts
• Often occurs with plaque psoriasis
  – Can also occur on its own
• Skin
  – Smooth, moist, salmon-colored
  – Often tender and itchy
Comorbidities in Psoriasis: Overview

- Psoriasis is associated with multiple disease states and behaviors that potentially increase morbidity and mortality and lower quality of life
  - Psoriatic arthritis
  - Crohn’s disease
  - Uveitis
  - Depression
  - Alcoholism
  - Smoking

- Psoriasis is independently associated with MI

- Psoriasis is associated with multiple comorbidities that increase the risk of cardiovascular disease
  - Hypertension
  - Diabetes
  - Dyslipidemia
  - Obesity

MI = myocardial infarction.
Patients with Psoriasis Have a Higher Prevalence of Obesity Than the General Population

*P < .001 vs Utah.
†P = .002 vs Utah.

Obesity = BMI > 30 kg/m².

Obesity, waist circumference, weight change, and the risk of psoriasis

- Prospective examination of the Nurses’ Health Study II (N=78,626)
  - 14 years of follow-up
  - 892 incident cases of psoriasis

- For body mass index (BMI) updated every 2 years compared with BMI of 21.0–22.9, multivariate relative risks of psoriasis were statistically significant (P=0.001)
  - 1.40 (95% CI, 1.13–1.73) for a BMI = 25.0–29.9
  - 1.48 (95% CI, 1.15–1.91) for a BMI = 30.0–34.9
  - 2.69 (95% CI, 2.12–3.40) for a BMI ≥ 35.0

- Hip circumference, and waist-hip ratio were all associated with a higher risk of incident psoriasis (all P-values for trend, 0.001)
Psoriasis and Components of the Metabolic Syndrome


**Diabetes Mellitus**

OR = 2.48 ($P<.0001$)

**Hyperlipidemia**

OR = 2.09 ($P<.01$)

**Coronary Heart Disease**

OR = 1.77 ($P<.01$)

**Arterial Hypertension**

OR = 3.27 ($P<.0001$)

OR = odds ratio. Control = patients hospitalized for reasons other than psoriasis.

Hospitalized Patients:

- **Control** (N=1044)
- **Psoriasis** (N=581)
Prevalence of cardiovascular factors in patients with psoriasis

- General Practice Research Database
- Population-based UK cohort
  - Severe psoriasis = psoriasis and systemic therapy (n= 3854 / controls 14,065)
  - Mild psoriasis = psoriasis but no systemic therapy (n=127,706 / controls 465,252)
- Patients classified as having risk factors if they had codes for diabetes, hypertension, hyperlipidemia, obesity, or smoking
- Analyses utilized adjustments for age, gender, person-years, and all cardiovascular risk factors

<table>
<thead>
<tr>
<th></th>
<th>Severe psoriasis</th>
<th>Mild psoriasis</th>
<th>Controls</th>
<th>OR severe vs mild</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes</td>
<td>7.1</td>
<td>4.4</td>
<td>3.3</td>
<td>1.39; 95% CI 1.22–1.58</td>
</tr>
<tr>
<td>Hypertension</td>
<td>20</td>
<td>14.7</td>
<td>11.9</td>
<td>-</td>
</tr>
<tr>
<td>Hyperlipidemia</td>
<td>6</td>
<td>4.7</td>
<td>3.3</td>
<td>-</td>
</tr>
<tr>
<td>Obesity</td>
<td>20.7</td>
<td>15.8</td>
<td>13.2</td>
<td>1.47; 95% CI 1.32–1.63</td>
</tr>
<tr>
<td>Smoking</td>
<td>30.1</td>
<td>28</td>
<td>21.3</td>
<td>-</td>
</tr>
</tbody>
</table>

CI, confidence interval; CV, cardiovascular; OR, odds ratio.
Cardiovascular risk factors in psoriasis

- Obesity
- Metabolic syndrome
- Diabetes
- Hypertension
- Smoking
- Atherosclerosis

Mehta et al. Arch Dermatol 2011

Vascular inflammation in psoriasis localizes to the arterial wall (the site where early atherosclerosis begins)

Patient characteristics:
• 45 years old; body surface area 17%; no therapy

**FDG PET/CT:** TBR value 2.02 (aortic arch):
at 60 minutes imaging time

**FDG PET/MR:** TBR 3.08 (aortic arch):
at 120 minutes imaging time

Dave J, et al. JAAD 2014;ePub ahead of print
Psoriasis May Be Risk Factor for Development of Coronary Artery Calcification

CAC = coronary artery calcification; CAD = coronary artery disease.

• Incidence per 1000 person-years (95% confidence interval [CI]):
  – Control: 3.58 (3.52-3.65)
  – Mild psoriasis: 4.04 (3.88-4.21)
  – Severe psoriasis: 5.13 (4.22-6.17)

• Psoriasis may confer an independent risk of MI

• The RR was greatest in young patients with severe psoriasis


RR = relative risk.
Meta-analysis: Attributable risk

Population attributable risk of psoriasis on major adverse cardiovascular events

<table>
<thead>
<tr>
<th></th>
<th>Baseline rate per 100 000/year</th>
<th>Rate ratio, psoriasis (95% CI)</th>
<th>Rate per 100 000/year, psoriasis</th>
<th>Excess rate per 100 000/year, psoriasis</th>
<th>Number of excess causes/year attributable to psoriasis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mild psoriasis</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CV death</td>
<td>256</td>
<td>1.03 (0.86–1.25)</td>
<td>263.7 (220–320)</td>
<td>7.7 (–36 to 64)</td>
<td>520 (–2419 to 4320)</td>
</tr>
<tr>
<td>MI</td>
<td>261</td>
<td>1.29 (1.02–1.63)</td>
<td>336.7 (266–425)</td>
<td>75.7 (5–164)</td>
<td>5109 (352–11,099)</td>
</tr>
<tr>
<td>Stroke</td>
<td>307.5</td>
<td>1.12 (1.08–1.16)</td>
<td>344.4 (332–356)</td>
<td>36.9 (25–49)</td>
<td>2491 (1661–3321)</td>
</tr>
<tr>
<td><strong>Severe psoriasis</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CV death</td>
<td>256</td>
<td>1.39 (1.11–1.74)</td>
<td>355.8 (284–445)</td>
<td>99.8 (28–189)</td>
<td>749 (211–1421)</td>
</tr>
<tr>
<td>MI</td>
<td>261</td>
<td>1.70 (1.32–2.18)</td>
<td>443.7 (345–569)</td>
<td>182.7 (84–308)</td>
<td>1370 (626–2310)</td>
</tr>
<tr>
<td>Stroke</td>
<td>307.5</td>
<td>1.56 (1.32–1.84)</td>
<td>263.7 (220–320)</td>
<td>172.2 (98–258)</td>
<td>1292 (738–1937)</td>
</tr>
</tbody>
</table>

Estimates are based on 2008 US census data and current national rates of cardiovascular (CV) death, myocardial infarction (MI), and stroke. The 95% confidence interval estimates for the rate ratio are based on meta-analysis results.

CV Disease in Psoriasis

Severe Psoriasis:

- 50% increased risk of mortality
- 5 years of life lost

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Hazard Ratio (adjusted for CV risk factors)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MI</td>
<td>1.58</td>
</tr>
<tr>
<td>Stroke</td>
<td>1.43</td>
</tr>
<tr>
<td>CV</td>
<td>1.57</td>
</tr>
<tr>
<td>MACE</td>
<td>1.53</td>
</tr>
</tbody>
</table>

CV = cardiovascular; MACE = major adverse cardiac events.
Age of psoriasis onset is associated with earlier comorbidity and mortality

**Psoriasis: time course of disease morbidity and mortality**

*Non-psoriasis*

<table>
<thead>
<tr>
<th>Age at onset</th>
<th>Psoriasis-mortality: Age of death by age of onset of psoriasis</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤25 years</td>
<td>≥25 years</td>
</tr>
<tr>
<td>(n=20)</td>
<td>(n=102)</td>
</tr>
<tr>
<td>Mean ± SD</td>
<td>60.3±13.9</td>
</tr>
<tr>
<td>Median</td>
<td>54.0</td>
</tr>
<tr>
<td>≥25 years</td>
<td>71.4±12.2</td>
</tr>
<tr>
<td>(n=102)</td>
<td>72.0</td>
</tr>
<tr>
<td>Total</td>
<td>69.8±13.3</td>
</tr>
<tr>
<td>Median</td>
<td>71.0</td>
</tr>
</tbody>
</table>

*Comorbidities:*

- Obesity, hypertension, diabetes, dyslipidemia, Crohn's Disease

Gulliver WP, et al. AAD 2015, Late Breaker
Most commonly reported signs and symptoms from the concept elicitation interviews

- Based on item retention criteria and cognitive debriefing interviews, 11 items included for the final PSSD version:
  - 5 items on symptoms (itch, pain, stinging, burning, and skin tightness)
  - 6 items on patient-observable signs (skin dryness, cracking, scaling, shedding or flaking, redness and bleeding)
  - Response options for severity were on a 0−10 numerical rating scale (0=absent and 10=worst imaginable)
  - Two versions were developed with a recall period of either the past 24 hours (PSSD-24h) or past 7 days (PSSD-7d)
  - Days with symptoms and signs experienced are collected in the 7-day version using a frequency scale ranging from “none of the days” to “all of the days”

Patients’ perception of disease severity does not directly correlate with the skin area involved.

Patients’ self-reported psoriasis BSA

- Severe: 6%
- Moderate: 15%
- Mild: 79%

Patients (n=2549)

Patients’ self-reported disease severity

- Severe
  - >10 palms (n=156): 67%
  - 4–10 palms (n=376): 54%
  - ≤3 palms (n=2017): 7%

- Moderate
  - >10 palms (n=156): 28%
  - 4–10 palms (n=376): 54%
  - ≤3 palms (n=2017): 7%

- Mild
  - >10 palms (n=156): 22%
  - 4–10 palms (n=376): 39%
  - ≤3 palms (n=2017): 43%

- Includes patients with mild, moderate, and severe disease.

\(^a\)Reflects patients’ self-reported diagnoses.

BSA, body surface area.

Psoriasis Patients Are More Likely to Have Increased Risk of Depression, Use SSRIs, and Have CV Risk Factors*

*After adjusting for age, gender, and Deyo-Charlson comorbidity.

SSRIs = selective serotonin reuptake inhibitor.

Selected Special Circumstances
Treatment Impact on Anxiety and Depression

- Patients with moderate-to-severe psoriasis (N=1230)
- Randomized 1:1:1 to ustekinumab (45 or 90 mg) or placebo
- Greater improvements in active treatment groups
  - Hospital Anxiety and Depression Scale
    - 14% improvement in anxiety
    - 30% improvement in depression
  - Dermatology Life Quality Index
    - 76% improvement

$P < 0.001$ for each measure

Association of psoriasis severity with health-related quality of life, depression, and work productivity

- Significant negative impact on HRQOL, depression, and work productivity, particularly for moderate and severe psoriasis patients
- Limitations: relative impact of concomitant PsA on PRO results not analyzed, treatments of psoriasis or comorbidities not included

PRO, patient-reported outcomes
Armstrong A, et al. AAD 2015, P947 Sponsored by Eli Lilly

1P<0.01; 2P<0.001
Ustekinumab and depression

Impact of psoriasis compared with other chronic diseases

Physical Component of Psoriasis as Compared to Other Major Diseases

- Healthy adults
- Dermatitis
- Cancer
- Depression
- Hypertension
- Arthritis
- Myocardial infarction
- Chronic lung disease
- Type 2 diabetes
- Psoriasis
- Congestive heart failure

Mental Component of Psoriasis as Compared to Other Major Diseases

- Healthy adults
- Hypertension
- Type 2 diabetes
- Myocardial infarction
- Congestive heart failure
- Cancer
- Arthritis
- Dermatitis
- Psoriasis
- Chronic lung disease
- Depression

317 patients with psoriasis completed the SF-36 Health Survey Compared with 10 other chronic medical or psychiatric chronic conditions reported in the National Survey of Functional Health Status (NSFHS)

SF-36=Short-form 36

**DERMATOLOGY LIFE QUALITY INDEX**

**Hospital No:**

**Name:**

**Date:**

**Score:**

**Address:**

**Diagnosis:**

The aim of this questionnaire is to measure how much your skin problem has affected your life OVER THE LAST WEEK. Please tick ⬜ one box for each question.

1. Over the last week, how **itchy, sore,** **painful** or **stinging** has your skin been?
   - Very much ⬜
   - A lot ⬜
   - A little ⬜
   - Not at all ⬜

2. Over the last week, how **embarrassed** or **self conscious** have you been because of your skin?
   - Very much ⬜
   - A lot ⬜
   - A little ⬜
   - Not at all ⬜

3. Over the last week, how much has your skin interfered with you going **shopping** or looking after your **home** or **garden**?
   - Very much ⬜
   - A lot ⬜
   - A little ⬜
   - Not at all ⬜
   - Not relevant ⬜

4. Over the last week, how much has your skin influenced the **clothes** you wear?
   - Very much ⬜
   - A lot ⬜
   - A little ⬜
   - Not at all ⬜
   - Not relevant ⬜

5. Over the last week, how much has your skin affected any **social** or **leisure** activities?
   - Very much ⬜
   - A lot ⬜
   - A little ⬜
   - Not at all ⬜
   - Not relevant ⬜

6. Over the last week, how much has your skin made it difficult for you to do any **sport**?
   - Very much ⬜
   - A lot ⬜
   - A little ⬜
   - Not at all ⬜
   - Not relevant ⬜

7. Over the last week, has your skin prevented you from **working** or **studying**?
   - Yes ⬜
   - No ⬜
   - Not at all ⬜
   - Not relevant ⬜

   If "No", over the last week how much has your skin been a problem at **work** or **studying**?
   - Very much ⬜
   - A lot ⬜
   - A little ⬜
   - Not at all ⬜

8. Over the last week, how much has your skin created problems with your **partner** or any of your **close friends** or **relatives**?
   - Very much ⬜
   - A lot ⬜
   - A little ⬜
   - Not at all ⬜
   - Not relevant ⬜

9. Over the last week, how much has your skin caused any **sexual difficulties**?
   - Very much ⬜
   - A lot ⬜
   - A little ⬜
   - Not at all ⬜
   - Not relevant ⬜

10. Over the last week, how much of a problem has the **treatment** for your skin been, for example by making your home messy, or by taking up time?
    - Very much ⬜
    - A lot ⬜
    - A little ⬜
    - Not at all ⬜
    - Not relevant ⬜

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*Please check you have answered EVERY question. Thank you.*
Psoriasis and quality of life

- Regardless of psoriasis severity
  - Nearly 60% of patients consider psoriasis to have a major effect on QoL

Overall quality of life in psoriasis patients

- Psoriasis is a problem in my daily life: 6%
  - Not a problem in daily life: 94%
- Psoriasis affects my overall emotional well-being: 12%
  - No effect on emotional well-being: 88%
- Psoriasis interferes with my enjoyment of life: 18%
  - No interference with enjoyment of life: 82%

Greater PASI reduction correlates to greater improvement in DLQI

- Data from REVEAL
  - Mean DLQI total score and SF-36 PCS and MCS baseline to Week 16 change scores stratified by PASI response at Week 16

<table>
<thead>
<tr>
<th>PASI improvement status</th>
<th>DLQI total score</th>
<th>P-values for pairwise comparisons</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>Mean ± SD</td>
</tr>
<tr>
<td>1. PASI ≥75</td>
<td>604</td>
<td>-9.7 ± 6.2</td>
</tr>
<tr>
<td>2. PASI 50 to &lt;75</td>
<td>126</td>
<td>-6.2 ± 5.8</td>
</tr>
<tr>
<td>3. PASI 25 to &lt;50</td>
<td>112</td>
<td>-3.4 ± 5.7</td>
</tr>
<tr>
<td>4. PASI &lt;25</td>
<td>283</td>
<td>-0.4 ± 4.8</td>
</tr>
</tbody>
</table>

DLQI, dermatology life quality index; MCS, mental health component summary; PASI, psoriasis area severity index; PCS, physical component summary.
Psoriasis impacts employment and employment circumstances

**Probability of full-time employment by psoriasis severity**

- 62 for Mild
- 58.9 for Moderate
- 56 for Severe

**Job negatively affected by psoriasis (non-retired patients with psoriasis only)**

<table>
<thead>
<tr>
<th>Job negatively affected at all in typical month</th>
<th>Mild severity n (%)</th>
<th>Moderate severity n (%)</th>
<th>Severe severity n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>7 (24)</td>
<td>8 (20)</td>
<td>28 (38)</td>
</tr>
<tr>
<td>No</td>
<td>22 (76)</td>
<td>33 (80)</td>
<td>45 (62)</td>
</tr>
<tr>
<td>Total</td>
<td>29</td>
<td>41</td>
<td>73</td>
</tr>
</tbody>
</table>

- Adjusted for age at interview (P=0.63), age at onset (P=0.18), drug therapy (P=0.20), gender (P<0.0001), and race (P=0.28)
- Odds ratio (95% CI): severe vs mild=0.8 (95% CI 0.5–1.2). Moderate vs mild=0.9 (95% CI 0.6–1.3)

- Chi square: 5.04, P=0.08. Survey completed only in Fall 2004 and Fall 2005
- Mild vs severe: Chi square, 1.86, P=0.20
- Moderate vs severe: Chi square, 4.31, P<0.05

Severe psoriasis correlated to lower income

- Adjusted for age at interview (P=0.53), age at onset (P=0.25), drug therapy (P=0.20), gender (P=0.0008), and race (P=0.16)
- Odds ratio (95% CI): severe vs mild=2.1 (95% CI 1.2–3.7). Moderate vs mild=1.4 (95% CI 0.8–2.5)
# Pregnancy Outcomes in Psoriasis: A Retrospective Analysis

## Prevalence and Risk Ratios of Pregnancy Outcomes in Psoriasis

<table>
<thead>
<tr>
<th>Pregnancy Outcome (ICD-9 code)</th>
<th>Psoriasis N = 358</th>
<th>Non-Psoriasis N = 131,424</th>
<th>Risk Ratio</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spontaneous abortion (634)</td>
<td>28.1%</td>
<td>7.2%</td>
<td>3.90</td>
<td>3.33, 4.56</td>
</tr>
<tr>
<td>Preterm birth (644)</td>
<td>21.7%</td>
<td>7.4%</td>
<td>2.92</td>
<td>2.41, 3.54</td>
</tr>
<tr>
<td>Severe pre-eclampsia and eclampsia (642.5 and 642.6)</td>
<td>14.2%</td>
<td>2.9%</td>
<td>4.92</td>
<td>3.79, 6.39</td>
</tr>
<tr>
<td>Placenta previa without and with hemorrhage (641.0 and 641.1)</td>
<td>18.6%</td>
<td>5.3%</td>
<td>3.49</td>
<td>2.81, 4.33</td>
</tr>
<tr>
<td>Ectopic pregnancy (633)</td>
<td>13.6%</td>
<td>3.0%</td>
<td>4.56</td>
<td>3.48, 5.97</td>
</tr>
<tr>
<td>Cesarean section (669.7)</td>
<td>7.3%</td>
<td>20.5%</td>
<td>0.35</td>
<td>0.24, 0.53</td>
</tr>
</tbody>
</table>

Psoriasis is significantly associated with lower rates of pregnancy and live births

<table>
<thead>
<tr>
<th>Description</th>
<th>Women with psoriasis, n (%)</th>
<th>Women without psoriasis, n (%)</th>
<th>McNemar test</th>
<th>ORs (95% CI)</th>
<th>Adjusted&lt;sup&gt;a&lt;/sup&gt;</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women overall</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patients, N</td>
<td>30,773</td>
<td>30,773</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pregnancy</td>
<td>954 (3.10)</td>
<td>1119 (3.64)</td>
<td>0.0002</td>
<td>0.84 (0.77–0.91)</td>
<td>&lt;0.0001</td>
<td></td>
</tr>
<tr>
<td>Live births</td>
<td>417 (1.36)</td>
<td>642 (2.09)</td>
<td>&lt;0.0001</td>
<td>0.65 (0.57–0.73)</td>
<td>&lt;0.0001</td>
<td></td>
</tr>
<tr>
<td>Women aged &lt;35 years with psoriasis vs women aged &lt;35 years without psoriasis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patients, N</td>
<td>7374</td>
<td>7374</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pregnancy</td>
<td>692 (9.38)</td>
<td>861 (11.68)</td>
<td>&lt;0.0001</td>
<td>0.78 (0.70–0.87)</td>
<td>&lt;0.0001</td>
<td></td>
</tr>
<tr>
<td>Live births</td>
<td>321 (4.35)</td>
<td>523 (7.09)</td>
<td>&lt;0.0001</td>
<td>0.61 (0.52–0.70)</td>
<td>&lt;0.0001</td>
<td></td>
</tr>
<tr>
<td>Women aged ≥35 years with psoriasis vs women aged ≥35 years without psoriasis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patients, N</td>
<td>23,399</td>
<td>23,399</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pregnancy</td>
<td>262 (1.12)</td>
<td>258 (1.10)</td>
<td>0.8602</td>
<td>1.02 (0.85–1.21)</td>
<td>0.8636</td>
<td></td>
</tr>
<tr>
<td>Live births</td>
<td>96 (0.41)</td>
<td>119 (0.51)</td>
<td>0.1167</td>
<td>0.82 (0.63–1.08)</td>
<td>0.1524</td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup>Odds ratios were estimated using logistic regression models, controlling for age, CCI, obesity and smoking status. **Highlighted values** are statistically significant at the α=0.05 level.

Cather J, et al. AAD 2012, P5005 Sponsored by AbbVie
Other common conditions in people with psoriasis: Psoriatic arthritis

• Affects 1 in 3 psoriasis sufferers
• More common if nails severely affected
• Can damage and deform joints
  – Pain, limited mobility
• May limit school/work/recreation
• Contributes to further reduction in quality of life
Psoriatic Arthritis Clinical Signs and Symptoms: Joint Inflammation

DIP synovitis

PIP and DIP synovitis

Asymmetric oligoarthritis

Dactylitis

PIP = proximal interphalangeal.
Manifestations of PsA

- Polyarthritis
- DIP arthritis
- Arthritis mutilans
- Dactylitis
- Enthesitis
- Spondylitis
Other common conditions in people with psoriasis: Nail changes

- Pits/grooves in nail surface
- May change shape or color
- Nail thickening
- Oil spots
- Splinter hemorrhages
- Distal onycholysis (early separation of the distal aspect of the nail plate)
- May detach from nail bed
- Infections are more common
Nail Psoriasis Significantly Impairs QoL

- Nail psoriasis occurs in 50% of psoriasis patients, and in 63% to 83% of patients with psoriatic arthritis

- Previous studies have shown:
  - 93% of the time, nail psoriasis is considered a cosmetic handicap
  - 49% of the time, nail psoriasis interferes with work
  - 52% of the time, nail psoriasis is associated with pain

- **Objective:** Quantify HRQoL burden associated with nail involvement among patients with chronic plaque psoriasis

- **Methods:** PRO comparing psoriasis with nail involvement vs psoriasis with no nail involvement
  - Outcomes were adjusted for psoriasis duration, age, gender, baseline BSA, baseline PASI, and clinical trial
  - Adjusted PRO assessments between:
    - Nail psoriasis / BSA <10%
    - No nail psoriasis / BSA >10%

Risk of Lymphoma in Psoriasis
General Practice Research Database


Psoriasis patients were classified as severe if they received a systemic treatment consistent with extensive disease (n=3,994) and those who did not receive systemic therapies were classified as mild (n=149,203).

Adjusted Relative Risk (RR, 95% CI) | Mild Psoriasis | Severe Psoriasis
--- | --- | ---
All lymphoma | 1.34 (1.16-1.54)† | 1.59 (0.88-2.89)‡
Non-Hodgkin’s lymphoma€ | 1.15 (0.97-1.37)‡ | 1.34 (1.16-1.54)§
Hodgkin’s lymphoma | 1.42 (1.00-2.02)** | 3.18 (1.01-9.97)**
T-cell lymphoma | 4.10 (2.70-6.23)† | 10.75 (3.89-29.76)†

*RR = relative risk (confidence interval), adjusted for gender and age.
†P<.001; ‡P = .1; §P = .5; **P = .05.
€Excludes cutaneous T-cell lymphoma.
Correlation between DLQI and FDLQI

Rs=0.554, P<0.001
DLQI, Dermatology Life Quality Index; FDLQI, Family Dermatology Life Quality Index

Psoriasis Is Not Just about the Skin