ITCH IN PSORIASIS

PREVALENCE
- Prevalence of Psoriasis 1-5% (Parisi, 2013)
- Prevalence of itch 43% - 84% (Reich, 2010; Lebwohl, 2014)
- Pruritus is a significant symptom of psoriasis
  - More common than scale and flaking

PATHOPHYSIOLOGY
- Upregulated IL-17A (Moynes, 2014)
- Overexpression of Nerve growth factor
  - Tropomyosin receptor kinase A
- Mediators
  - Substance P
  - Calcitonin gene-related peptide
- Exacerbated by stress, infection, illness, scratch-itch cycle

IMPORTANCE OF ASSESSING ITCH
- Lack of research in psoriasis with pruritus as primary endpoint
  - Only 1 study
  - Itch does not always correspond to PASI (Roblin, 2014)
- Important to identify and itch and aggravators
  - What is most important to the patient
  - Considerations of what treatments and when to escalate management
  - More targeted approach

Aims of study:
- Determine prevalence and severity of itch
- Identify exacerbating factors
- Correlate with different psoriasis characteristics

DIFFERENT BIOLOGICAL AGENTS

<table>
<thead>
<tr>
<th>Biological Agent</th>
<th>Measure of Itch</th>
<th>Result (itch)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Etanercept (Mrowietz, 2015)</td>
<td>6-point Likert</td>
<td>Improvement at 12 weeks</td>
</tr>
<tr>
<td>Secukinumab (Thaci, 2015)</td>
<td>11-point itch-NRS*</td>
<td>Significant improvement at Wk 16</td>
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<tr>
<td>Ustekinumab (Leonardi, 2008)</td>
<td>DLQI improvement</td>
<td>Improvement</td>
</tr>
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<td>Ustekinumab (Thaci, 2015)</td>
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</tr>
<tr>
<td>Etanercept (Kimball, 2016)</td>
<td>11-point itch-NRS*</td>
<td>Improvement (*p&lt;0.001)</td>
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<tr>
<td>Adalimumab (Sola-Ortigosa, 2012)</td>
<td>Retrospective analysis</td>
<td>Improvement at 12 months</td>
</tr>
<tr>
<td>Infliximab (Schlopf, 2002)</td>
<td>Score of 0-3</td>
<td>Improvement (*p&lt;0.01)</td>
</tr>
</tbody>
</table>

METHOD
- Multi-site survey-based study
- Patients approached in clinic or phototherapy
- PASI and BSA calculated
- Added to complete survey
  - Demographics
  - Psoriasis severity
  - Frequency of itch
  - Exacerbating factors
RESULTS

<table>
<thead>
<tr>
<th>Total Population</th>
<th>179</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median age (years)</td>
<td>52 (52.3)</td>
</tr>
<tr>
<td>Age range (years)</td>
<td>73 (18-91)</td>
</tr>
<tr>
<td>Male</td>
<td>99 (55.3%)</td>
</tr>
<tr>
<td>Caucasian</td>
<td>147 (82.1%)</td>
</tr>
<tr>
<td>PASI &gt;10</td>
<td>63 (35.2%)</td>
</tr>
<tr>
<td>Phototherapy</td>
<td>84 (46.8%)</td>
</tr>
<tr>
<td>Biologics</td>
<td>42 (23.5%)</td>
</tr>
</tbody>
</table>

- **Type of Psoriasis by Severity of Itch**
- **BSA by Severity of Itch**

RESULTS CONTINUED

- 88 (49.2%) reported itch “always” or “most of the time”
- 19 (10.6%) only occasionally or never
- Less likely in those with Nail psoriasis (OR 0.4; p=0.006)
- Increased itch associated with
  - PASI >10 (OR 2.2; p=0.013)
  - BSA (p=0.008)
  - Seasonal variation in itch (p<0.01)

RESULTS – EXACERBATING FACTORS

- **Seasonal Exacerbations by Itch Severity**
- **Environments Exacerbating Itch**

TREATMENTS

- **Psoriasis Treatment by Severity of Itch**
- **Psoriasis Treatment by PASI**

LIMITATIONS

- 3 study sites
- University hospital and dermatology clinic
- High % patients receiving phototherapy and biological agents
- Increased psoriasis severity
- Did not include patients managed in primary care
- Questionnaire did not capture other medical underlying factors/causes of itch

IMPLICATIONS

- High prevalence of itch
- Similar to other studies
- Clear exacerbating factors
  - Important for history
  - To be considered in psoriasis management
- Improvement in PASI does not always mean improvement in itch
  - Biological agents
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