The Burden of Atopic Dermatitis: from Population to Bedside

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Objectives
• Review the clinical epidemiology of atopic dermatitis
• List the many impacts atopic dermatitis has on individuals and society
• Integrate understanding of patient-level burden into clinical practice

Prevalence of atopic dermatitis

Prevalence of atopic dermatitis in the US
• Children: 11%
• Adults: 7%

International prevalence - adults


Global age-standardized Prevalence

Severity spectrum of childhood AD

Severity spectrum of adult AD

Persistence of childhood atopic dermatitis into adulthood

USA

<table>
<thead>
<tr>
<th>Severity</th>
<th>PO-SCORAD</th>
<th>POEM</th>
<th>PGA</th>
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</thead>
<tbody>
<tr>
<td>Mild</td>
<td>27%</td>
<td>35%</td>
<td>39%</td>
</tr>
<tr>
<td>Moderate</td>
<td>52%</td>
<td>48%</td>
<td>53%</td>
</tr>
<tr>
<td>Severe</td>
<td>21%</td>
<td>17%</td>
<td>8%</td>
</tr>
</tbody>
</table>

Meta-analysis of prevalence over time in birth cohorts

Proportion of enrollees by age with no medication use and no symptoms

Past 20 years old, there are still fewer than 20% of participants symptom-free!
Predictors of persistence

- Atopic comorbidities
- Family history of atopy
- Non-white race
- Low socioeconomic status

Adult-onset atopic dermatitis

Years lived with disability (US)

Impacts of atopic dermatitis

Effect on daily life

- Impacts on sleep
- Impacts on social life
- Impacts on choice of clothing, makeup, shaving
- Embarrassment
- Decreased work productivity
  - 15% miss ≥1 day of work from atopic dermatitis
  - 2% miss ≥3 days of work from atopic dermatitis

Sleep

- 11% of children with AD experience impaired sleep ≥4 nights/week
- 22% of children with severe AD
- Adults with AD have 3x rates of insomnia vs general population
- Disordered sleep initiation and maintenance
- Increased parasomnias
- Increased daytime sleepiness/fatigue

Consequences of poor sleep

- Emotional and conduct problems
- Headaches
- Short stature
- Injuries
- Increased rates of ADHD
- Poor rating of overall health


Depression: >200% increased risk

Suicide

- 22% increased risk of suicide
- 66% of AD patients who died from suicide saw a physician within 1 month before their death
- 13% saw a physician FOR ECZEMA in the month before their death

Suicide


Clinical Implications

Assessing patient-level burden

- Ask patients about:
  - Mood
  - Sleep
  - Effects on school/work/other aspects of life
- Patient's symptoms: POEM
- Quality of life: DLQI

Mild 0-7
Moderate 8-16
Severe 17-28

Addressing sleep and mental health

- Coordinate mental health assessment and treatment with primary care
- Do they need to see a sleep specialist?
  - Even if sleep disrupted, usually not
  - Reserve for when not improved by treating the skin disease
- Successfully treating the skin disease should alleviate the associated burden

Treating atopic dermatitis improves sleep

Summary

- Atopic dermatitis is common, even in adults
  - Childhood disease is likely more persistent than previously thought
- Most patients do not have severe disease but those that do have substantially impaired quality of life
- Assessing patient-level burden in clinic is important
  - Shared decision making
  - Demonstrates empathy
- We can improve patient and population health