Pediatric Psoriasis Comorbidities

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Disclosures

Consultant for Pfizer.

Not relevant to this talk.
Review Triggers

Trauma
Infections
Medicines
Psychosocial Stress

Consider Comorbidities
Opportunity for prevention/early intervention

- NAFLD
- Obesity
- Hypertension
- Dyslipidemia
- IBD
- Quality of Life
- Psych Disorders
- Arthritis
- Diabetes II
- Obesity
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- Diabetes II

153 relevant manuscripts reviewed + expert panel convened.

Pediatric derm, rheum, GI, endocrin, adult and pediatric cardiology.

Expert consensus recommendations based on disease-oriented evidence and expert opinion.
- 10-40% of kids with psoriasis; peak onset: 9-12 years old
- Poor correlation between severity of psoriasis and arthritis
- 80% of children develop arthritis prior to skin disease
- Adults develop skin disease avg of 8.5 years prior to arthritis

Nail psoriasis is a predictor of PsA in children.

Augustin BJD 2010  Pourchot et al, 2017
Diagnosis is based on clinical & imaging features. No specific biomarkers.

Features of Psoriatic Arthritis in Children

- Pain and/or swelling in 1 or more joints
- Inflammation of a digit (dactylitis)
- Joint stiffness after sleep or rest; improves with activity
- Limp
- Heel pain or back pain (enthesitis)
- Eye pain or redness (uveitis)
Inflammation of the uveal tract (middle vascular layers of the eye).

PsA associated with chronic anterior uveitis in 10-20% of cases.

Rare in absence of joint disease.

More common in younger kids (<6 years).

Acute onset eye pain, redness, miosis, photophobia, or blurred vision.
<table>
<thead>
<tr>
<th>Psoriatic Arthritis</th>
<th>• Directed review of systems and physical examination as part of routine management.</th>
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<tbody>
<tr>
<td>Uveitis</td>
<td>• Routine ophthalmology evaluations only for patients with psoriatic arthritis or those with signs/symptoms.</td>
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Metabolic Syndrome (HTN, lipids, DM)

Relationship between psoriasis, obesity, other comorbidities complex.

Obesity precedes psoriasis. Higher BMI = greater psoriasis severity.

Augustin et al. BJD 2013
Paller et al. JAMA Dermatol. 2013
Becker et al. JAMA Derm 2014
Obesity is main risk factor for development of metabolic syndrome.

Metabolic Syndrome (HTN, lipids, DM)

Psoriasis is small independent risk factor for metabolic syndrome.

Augustin et al. BJD 2015

Tollefson et al JAMA Derm 2018
Obesity is main risk factor for development of metabolic syndrome. Psoriasis is small independent risk factor for metabolic syndrome.

At risk for CVD?
Psoriasis is associated with:
hyperlipidemia, HTN, DM, metabolic syndrome, PCOS, and NAFLD.

*In absence of obesity, far less data for these comorbidities.*

Critical to screen for and manage obesity in children with psoriasis.

Augustin et al. BJD 2015  
Tollefson et al JAMA Derm, 2018
Risk reduction via lifestyle modifications that control weight gain.

Weight reduction may modify psoriasis severity.

Referral for nutritional counseling / weight management center.

Annual BMI screening for all children beginning at age 2 years.


Osier et al. JAMA Derm 2017.
“Psoriatic March”
Relationship between psoriasis, metabolic syndrome and cardiovascular disease.

Boehncke et al. Exp Dermatol 2011
Boehncke & Schön Lancet May 2015
<table>
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<tr>
<th>Condition</th>
<th>Screening Recommendations</th>
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<tr>
<td><strong>Overweight or Obesity</strong></td>
<td>• Yearly BMI starting at 2 years of age.</td>
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| **Type 2 Diabetes Mellitus**                 | • Screen with fasting glucose every 3 years starting at age 10 years or puberty if patient is overweight and has 2+ risk factors.  
• Screen with fasting glucose patients with obesity every 3 years starting at age 10 years regardless of risk factors. |
| **Dyslipidemia**                             | • Fasting lipid panel as universal screening between ages 9-11 years and 17-21 years.     
• Additional screening in the presence of additional cardiovascular risk factors. |
| **Hypertension**                             | • Screen yearly starting at age 3 years using age, sex and height reference charts.       |
| **Nonalcoholic Fatty Liver Disease**         | • Screen with ALT starting at age 9-11 years if obese or overweight with additional risk factors, prediabetes or diabetes, dyslipidemia, obstructive sleep apnea or family history of NFALD/NASH.  
• Earlier screening can be considered in younger patients with more risk factors.  
• Repeat screen every 2-3 years if risk factors remain unchanged. |
Psoriasis pts have increased rates of IBD, especially Crohn’s disease. Genetic and immunologic cofactors likely contribute.

GI evaluation if signs/sx of IBD: decreased growth, unexplained weight loss, nausea, vomiting, abdominal pain, diarrhea.

Capon, Human Genetic 2007; Duerr, Science 2006
No clear understanding of relationship between psoriasis and celiac disease in children.

Celiac disease has been found to be more prevalent among adults with psoriasis (OR 2.73), although infrequent, 0.29% of patients. (Birkenfield S, BJD 2009)

Insufficient data to suggest universal screening for IBD or celiac disease among children with psoriasis.

Osier et al. JAMA Derm 2017.
Quality of Life

Psych Disorders

Pediatric Psoriasis
Psychiatric and Emotional Comorbidities
- Anxiety
- Depression
- Social isolation
- Substance Abuse
- Poor patient/caregiver QOL

Pediatric-onset patients may be at greatest risk.

Situational and biological. Common immunopathogenesis?

TNF, other cytokines.

Bilgic et al Pedi Derm 2010
Kim et al Pedi Derm 2010
Kimball et al JAAD 2012
Todberg T et al BJD 2016
Tollefson et al JAAD 2017
Centerforhas.com 2018
Each represents an insult to self-esteem and overall well-being.
American Academy of Pediatrics recommends routine yearly screening for anxiety and depression, regardless of age.

Children with psoriasis should be routinely assessed for mood symptoms and the psychosocial impact of psoriasis.

Low threshold for referral to mental health providers.
Individualize Approach to Each Patient, Family

- Remain vigilant at each visit for risk factors, worrisome signs/sx
- Identify those at greatest risk: overweight, obese; severe disease
- Weight loss/lifestyle and mood disorder interventions are key
- Involve primary care MD!
  - Comorbidity screening congruent with AAP recs
- Offer resources, events: National Psoriasis Foundation
Dermatologist’s Role

Awareness and recognition of risks, consequences of psoriasis
- physical, psychological, emotional and social
- high risk behaviors, substance abuse

Routine assessment of the impact on QOL
- physician, patient and caregiver perspectives

Early and proactive identification of comorbidities
- communicate with PCP, other specialists
- timely support and effective treatment
CONCLUSIONS

Patients with pediatric psoriasis should receive routine screening and identification of risk factors for associated comorbidities.

Recs will require review and refinement over time as data emerge.

Need more data to inform risk stratification.
Thank you!

The Dermatology Foundation has supported & advanced my career.

www.pedraresearch.org