Atopic dermatitis, psoriasis have similar comorbidities
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The skin, once thought to be immunologically sequestered from the body, is now deemed to be an integral part of a multisystem inflammatory axis.

Atopic dermatitis (AD) and psoriasis, especially in their most severe forms, have been linked to a variety of systemic inflammatory disorders and comorbidities. These comorbidities highlight that inflammatory skin diseases of childhood are serious chronic multisystem illnesses and not merely cosmetic conditions.

Atopic dermatitis comorbidities vary by age and length of illness. Some of the most common comorbidities are included in the gold-standard AD diagnostic criteria by Hanifin and Rajka (Acta Derm Venereol Suppl (Stockh) 1980;92:44-47). These criteria include pruritus, chronic or recurrent dermatitis, specific distribution by age (e.g., flexural disease of childhood) and personal and/or family history of atopy, i.e., food allergies, asthma and allergic rhinoconjunctivitis. Minor features include more than a dozen comorbid conditions, including ichthyosis vulgaris; bacterial and viral infections; allergic predisposition with positive immunoglobulin E and skin prick testing; eye findings such as cataracts; and excessive skin reactivity to touching foods, pressure and environmental triggers. These major and minor criteria actually have been staring us in the face for almost 40 years with the concept of comorbidities being part and parcel of the definition of atopic dermatitis and the atopic diathesis.

Recently, both pediatric psoriasis and atopic dermatitis have been linked to cutaneous infections and psychosocial disorders such as anxiety, depression and hyperactivity for the children involved and their parents. Linkage to cutaneous autoimmunity, including vitiligo and alopecia areata, may be noted in both sets of diseases.

The most important and well-described series of comorbidities shared by these two diseases is the association with obesity and the metabolic syndrome - a cluster of conditions characterized by increased risk of heart disease, stroke and diabetes. Early childhood obesity has been associated with atopic dermatitis development and severity. In psoriasis, increased abdominal girth and obesity may precede disease by a few years, suggesting their role as triggers in disease. One interesting feature of psoriatic disease is promising data from adults who had weight loss surgery and experienced psoriatic disease improvement.

Despite many common comorbidities, pediatric atopic dermatitis and pediatric psoriasis have many distinctive features.

In atopic dermatitis, the skin barrier is both weak and weakened by inflammation, allowing a series of unusual allergic features, i.e., the atopic march and infectious complications. Alternatively, in psoriasis the skin is triggered to thicken, and the joints may become inflamed.

Further divergence is seen in the clinical manifestations. In psoriasis, arthritis is the leading comorbidity, sometimes triggered by streptococcal disease. There also is a far more definitive association with metabolic syndrome features such as hypertension, hyperlipidemia and insulin resistance. Despite the common nature of psoriasis and the frequency of disease, atopic dermatitis has developed a more extensive laundry list of comorbidities, including infantile seborrheic dermatitis, Malassezia sensitization, dust allergy, asthma, food allergy, environmental allergens, contact dermatitis (e.g., lanolin, fragrance), prurigo, sleep disturbance, upper respiratory infections, warts, coxsackie generalization (e.g., eczema coxsackium) and cataracts.

The development of screening tools and interventions for pediatric patients with inflammatory skin disease is a work in progress. It is becoming clear that physicians treating patients of any age, including children, need to consider screening for comorbidities of disease, especially features of metabolic syndrome, obesity and
psychological issues. Children with atopic dermatitis should be further screened for sleep disturbance and psoriatic children for arthritis.

While it is not known how interventions will impact skin disease, they may improve overall long-term health of children with inflammatory skin disease.

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