

The age at which eczema appears in young children may indicate its cause

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A*STAR researchers have shown that eczema has different risk factors depending on its age of onset, after evaluating more than 1,000 Asian newborns over in an 18-month study.

Eczema, or atopic dermatitis, is a chronic condition characterized by

dry, itchy skin that is prevalent all over the world. Understanding its cause can help clinicians choose the most appropriate treatment.

To determine the factors involved in [eczema](#) onset, Evelyn Xiu Ling Loo from the A*STAR Singapore Institute for Clinical Sciences and colleagues analyzed 18 months of data collected as part of the Growing Up in Singapore Towards healthy Outcomes (GUSTO) study. Healthy pregnant mothers donated cord blood and placenta samples after delivery and information on signs of eczema development was collected at regular intervals. At the end of the 18-month period, the children were tested for common allergens. The patients' lifestyle and family history of allergy were also considered.

The team found that eczema can be activated by different triggers depending on the age of the sufferer at onset. Early onset occurs before the age of six months and was found to be associated with a maternal history of allergies. For the second type of eczema, occurring in children between six and twelve months of age, one of the risk factors was day care attendance. This is a surprising result, Loo notes, since exposure to higher microbial load during childhood normally protects from diseases later in life. She says other studies, however, have reported similar findings indicating a higher presence of allergens in these settings might sensitize some children to allergies. Finally, late onset atopic dermatitis, which develops in children over the age of 12 months, was found to be associated with an intake of antibiotics in the first six months of life.

Loo explains that early intake of antibiotics may disrupt the gut's microflora, which is important for shaping the immune response, and may also suppress the production of small proteins called cytokines, ultimately making the child more prone to allergic reactions.

"Knowledge that taking antibiotics may increase the risk of development of late onset atopic dermatitis could be used to develop a preventive

strategy to reduce its prevalence," says Loo.

The team next plans to examine how factors like diet and weight gain in addition to the presence of [environmental allergens](#) and chemicals in house dust may also influence the development of allergic diseases in children.

More information: Evelyn Xiu Ling Loo et al. Atopic Dermatitis in Early Life: Evidence for at Least Three Phenotypes Results from the GUSTO Study, *International Archives of Allergy and Immunology* (2015). [DOI: 10.1159/000381342](#)

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