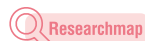




Neonatal skin microbiome dysbiosis and infantile atopic dermatitis: The role of early skin care

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Abstract

This study investigated the connection between neonatal skin microbiome dysbiosis and the onset of infantile atopic dermatitis (AD). It also examined how early skin care interventions could mitigate the risk of developing AD. The findings highlight the crucial role of the skin microbiome in infant health and the potential to influence AD development through preventative skin care practices. This research emphasizes the significance of maintaining a healthy skin barrier and microbiome from birth to prevent inflammatory skin conditions in early childhood.

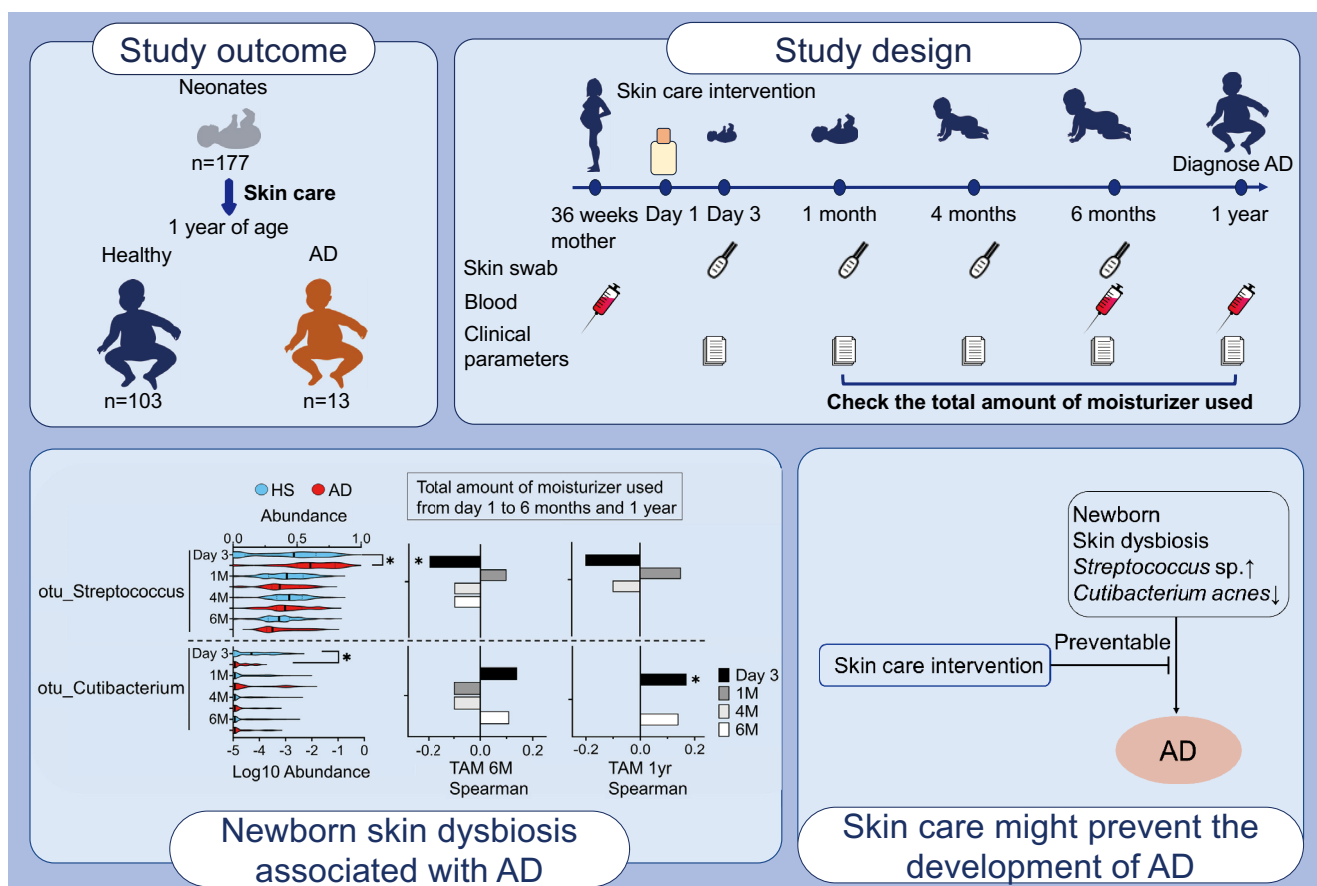
Background & Results

AD is one of the most common inflammatory skin disorders in infancy. There is no doubt from previous research that dysbiosis, an imbalance in the skin's microbial community, is related to the pathogenesis of AD. However, it was not clear how the skin microbiome behaves in pre-AD infants, nor whether skin dysbiosis during this preclinical phase is related to disease onset. The study tracked infants from birth and assessed their skin microbiome composition over time. It was observed that those with early dysbiosis

were more likely to develop AD by the age of one. The research revealed that a regular skin care regimen, focused on preserving skin barrier function and microbiome balance, significantly reduced the occurrence of AD in these infants. The study also suggests that early skin care may have a protective effect by preventing further skin inflammation and microbial imbalance that leads to the chronic nature of AD.

Significance of the research and Future perspective

The research provides new insights into the potential for early intervention in preventing atopic dermatitis through skin care that supports microbial health. By identifying neonatal skin dysbiosis as a critical factor in AD development, the study lays the groundwork for new preventative strategies in pediatric dermatology. Future research should focus on long-term studies to explore the lasting effects of early skin care on AD development and severity, as well as identifying the most effective skin care protocols to maintain microbial and skin health. This approach offers promise in improving quality of life for infants at risk of AD and reducing the overall burden of the disease on families and healthcare systems.



Patent

Treatise

URL

Keyword

Aoyama, Reika; Nakagawa, Seitaro; Nakamura, Yuumi et al. Neonatal skin dysbiosis to infantile atopic dermatitis: Mitigating effects of skin care. Allergy. 2024, 79(6), 1618-1622. doi: 10.1111/all.16095
Ito, Tomoka; Nakamura, Yuumi. The skin barrier and microbiome in infantile atopic dermatitis development: can skin care prevent onset? Int Immunol. 2024, 36, 579-584. doi: 10.1093/intimm/dxae038
https://www.ifrec.osaka-u.ac.jp/en/laboratory/yumi_matsuoka/
atopic dermatitis, microbiome, infant, skin care