

Diabetes Mellitus and Skin Diseases in Childhood

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Abstract:

Background: Diabetes mellitus (DM) is a chronic metabolic disorder that affects multiple organ systems, with the skin being one of the most commonly impacted. In pediatric patients, dermatological manifestations can serve as early indicators of diabetes, signal poor glycemic control, and complicate disease management. Among the most prevalent skin issues are excessive dryness, increased susceptibility to infections, and diabetic dermopathy, all of which can significantly affect quality of life. Recognizing and addressing these conditions is essential for early diagnosis and effective treatment.

Purpose: This presentation explores the relationship between childhood diabetes and skin conditions, focusing on skin dryness, infections, and diabetic dermopathy. It highlights their underlying mechanisms, pathophysiology, and clinical significance, emphasizing their impact on disease management and overall patient well-being.

Methods: A comprehensive literature review examined skin disorders' prevalence, types, and clinical significance in children with type 1 and type 2 diabetes. The review included studies on diabetic dermopathy, cutaneous infections, and other dermatological conditions commonly associated with DM. Articles published between 2015 and 2024 in Publons and Web of Science were analyzed to ensure up-to-date, high-quality evidence.

Results: Children with diabetes frequently experience skin disorders, including excessive skin dryness (xerosis), which is often due to impaired moisture retention and autonomic dysfunction. This leads to increased itching, cracking, and secondary infections. There is also a heightened susceptibility to cutaneous infections, such as bacterial (e.g., *Staphylococcus aureus*) and fungal (e.g., *Candida*), due to hyperglycemia-related immune dysfunction. Diabetic dermopathy, characterized by hyperpigmented, atrophic skin lesions, particularly on the lower legs, is commonly observed in children with poorly controlled diabetes. These skin manifestations can significantly impact both the physical health and quality of life of pediatric patients with diabetes.

Conclusion: Skin manifestations are common but often overlooked complications in children with diabetes. Skin dryness, infections, and diabetic dermopathy can serve as early indicators of diabetes and reflect poor glycemic control. Recognizing these conditions is crucial for timely intervention, improved disease management, and enhanced patient well-being. A multidisciplinary approach,

including dermatological care and optimized glycemic control, is essential to prevent complications and improve the quality of life for pediatric diabetic patients.

Keywords:

Diabetes mellitus, childhood, skin diseases, diabetic dermopathy, infections, pediatric endocrinology.