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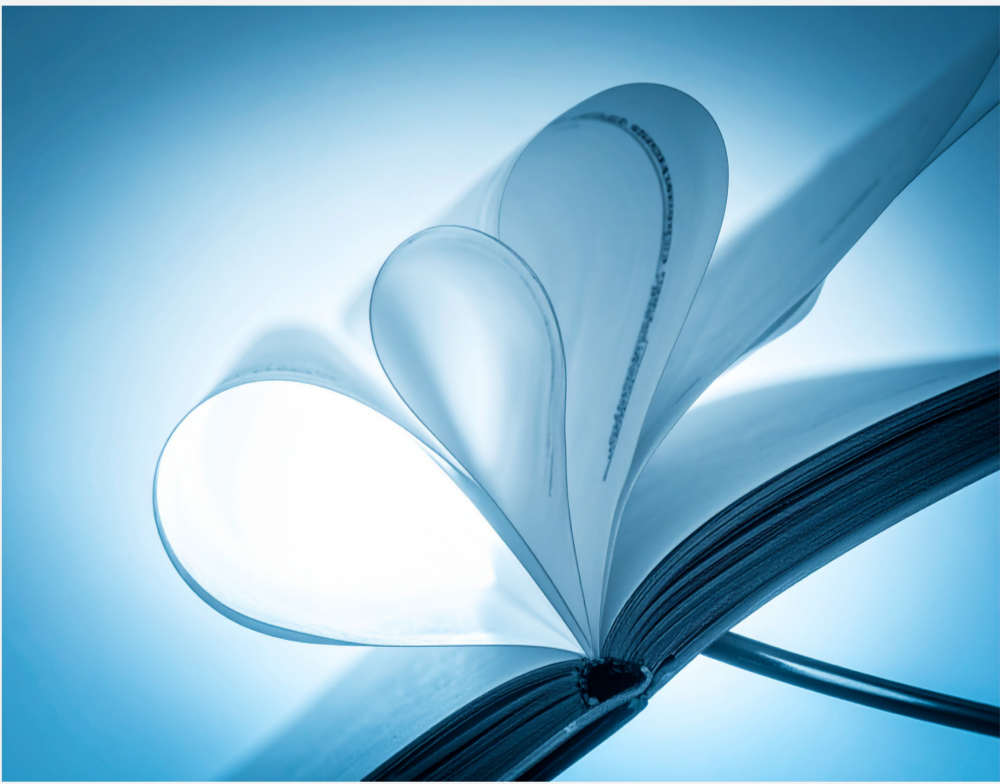
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Editors: Kathleen Dungan, MD, MPH and Ketan Dhatariya, MBBS, MSc, MD, MS, FRCP, PhD

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Skin Manifestations of Diabetes Mellitus

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ABSTRACT

Diabetes mellitus is a common and debilitating disease that affects a variety of organs including the skin. Between thirty and seventy percent of patients with diabetes mellitus, both type 1 and type 2, will present with a cutaneous complication of diabetes mellitus at some point during their lifetime. A variety of dermatologic manifestations have been linked with diabetes mellitus; these conditions varyin severity and can be benign, deforming, and even life-threatening. Such skin changes can offer insight into patients' glycemic control and may be the first sign of metabolic derangement in undiagnosed patients with diabetes. Recognition and management of these conditions is important in maximizing the quality of life and in avoiding serious adverse effects in patients with diabetes mellitus.

INTRODUCTION

The changes associated with diabetes mellitus can affect multiple organ systems. Between thirty and seventy percent of patients with diabetes mellitus, both type 1 and type 2, will present with a cutaneous complication of diabetes mellitus at some point during their lifetime (1). Dermatologic manifestations of diabetes mellitus have various health implications ranging from those that are aesthetically concerning to those that may be life-threatening. Awareness of cutaneous manifestations of diabetes mellitus can provide insight into the present or prior metabolic status of patients. The recognition of such findings may aid in the diagnosis of diabetes or may be followed as a marker of glycemic control. The text that follows describes the relationship between diabetes mellitus and the skin, more specifically: (1) skin manifestations strongly associated with diabetes, (2) non-specific dermatologic signs and symptoms associated with diabetes, (3) dermatologic diseases associated with diabetes, (4) common skin infections in diabetes, and (5) cutaneous changes associated with diabetes medications.

SKIN MANIFESTATIONS STRONGLY ASSOCIATED WITH DIABETES MELLITUS

Acanthosis Nigricans

EPIDEMIOLOGY

Acanthosis nigricans (AN) is a classic dermatologic manifestation of diabetes mellitus that affects men and women of all ages. AN is more common in type 2 diabetes mellitus (2) and is more prevalent in those with darker skin color. AN occurs more frequently in African Americans, Hispanics, and Native Americans (3). AN is observed in a variety of endocrinopathies associated with resistance to insulin such as acromegaly, Cushing syndrome, obesity, polycystic ovarian syndrome, and thyroid dysfunction. Unrelated to insulin resistance, AN can also be associated with malignancies such as gastric adenocarcinomas and genitourinary cancers, as well as with autoimmune disorders, various medications, and familial disorders (4-4F).

PRESENTATION

AN presents chronically as multiple poorly demarcated plaques with grey to dark brown hyperpigmentation and a thickened velvety to verrucous texture (figure 1). Classically, AN has a symmetrical distribution and is located in intertriginous or flexural surfaces such as the back of the neck, axilla, elbows, palmar hands (also known as “tripe palms”), inframammary creases, umbilicus, or groin. Affected areas are asymptomatic; however, extensive involvement may cause discomfort or fetor. Microscopy shows hyperkeratosis and epidermal papillomatosis with acanthosis. The changes in skin pigmentation are primarily a consequence of hyperkeratosis, not changes in melanin. AN can present prior to the clinical diagnosis of diabetes; the presence of AN should prompt evaluation for diabetes mellitus and for other signs of insulin resistance.



Figure 1. Acanthosis nigricans. From Wikipedia.



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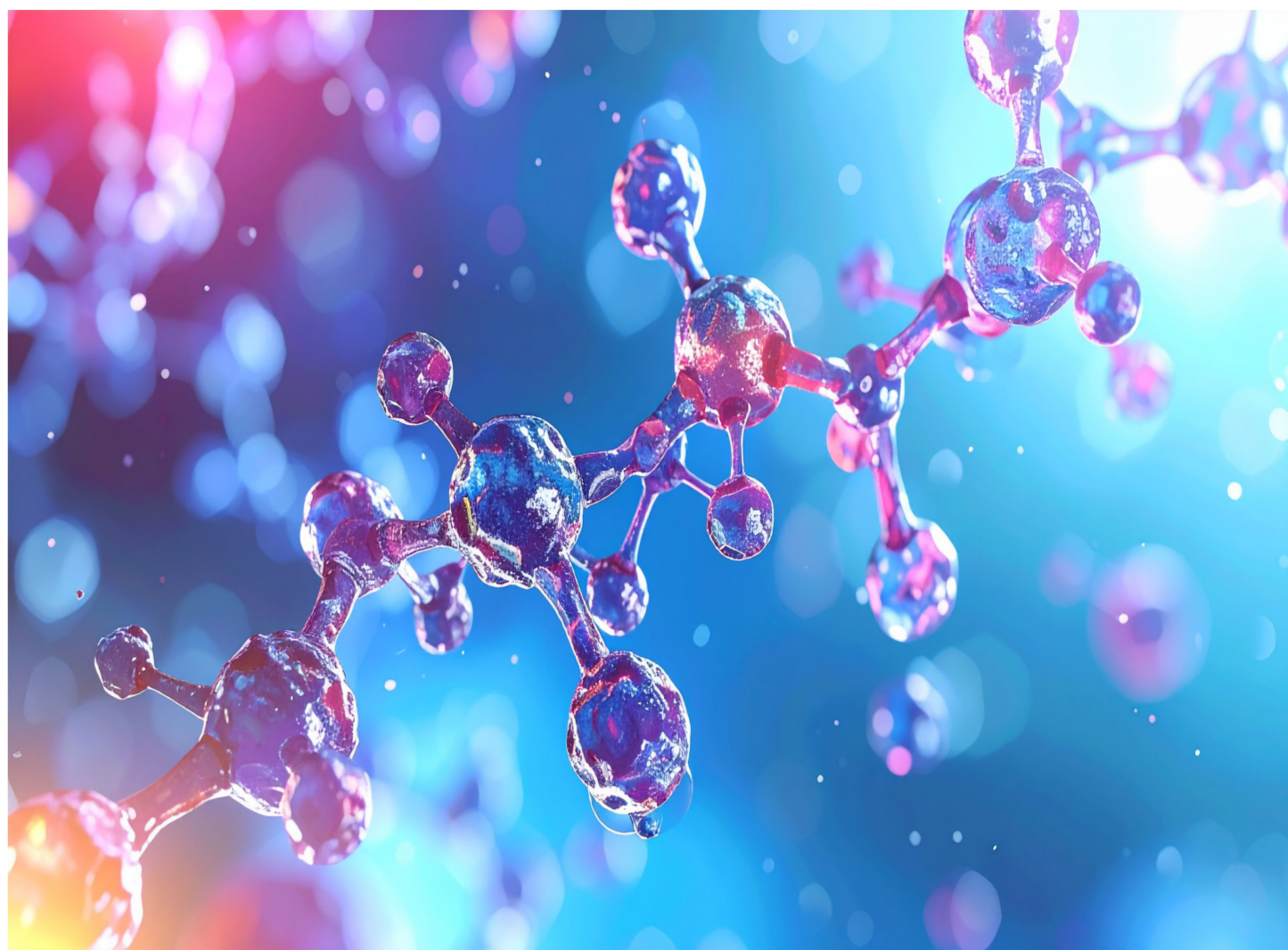
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Leslie DeGroot, MD - EndoText Founder 1928-2018