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Dermatitis Neglecta Should be Considered as One of the Differential Diagnoses for Acanthosis Nigricans

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Abstract:

Acanthosis nigricans is a skin condition that often indicates an underlying health issue. It typically appears in areas such as the nape, armpits, and groin, presenting as velvety patches of hyperpigmentation with irregular borders. This condition is most frequently linked to diabetes and insulin resistance, though it can occasionally signal the presence of internal malignancies. Additionally, it may arise from hormonal disorders or the use of specific medications, including systemic glucocorticoids and oral contraceptives. This activity aims to review the diagnostic evaluations and treatment options for acanthosis nigricans while emphasizing the importance of an interprofessional approach in assessing and managing patients with this condition. Acanthosis nigricans is commonly observed in individuals under the age of 40 and is often linked to several conditions, including obesity, hypothyroidism, acromegaly, polycystic ovary syndrome, insulin-resistant diabetes, and both Cushing's and Addison's diseases. Additionally, it may be associated with rare conditions such as pinealoma, Cushing's disease, ovarian hyperthecosis, stromal luteoma, ovarian dermoid cysts, Prader-Willi syndrome, leprechaunism, lipoatrophic diabetes, pineal hyperplasia syndrome, and Alstrom syndrome. In relation to our case report, it is important to consider dermatitis neglecta as one of the differential diagnoses for acanthosis nigricans. Dermatitis neglecta is an inflammatory skin condition that may arise when an individual is unable to maintain adequate personal hygiene. Regular bathing is essential for preserving skin cleanliness and promoting overall health. Engaging in bathing and scrubbing routines facilitates the removal of germs, oils, and dead skin cells. Prolonged intervals without bathing can lead to the accumulation of these substances on the skin, potentially resulting in a dense, hyperpigmented crust. While dermatitis neglecta is less common than other skin conditions with similar symptoms, a thorough assessment of an individual's symptoms and risk factors is crucial for accurate diagnosis and effective treatment of dermatitis neglecta.

Keywords: Dermatitis, Neglecta, Differential, Diagnosis, Acanthosis, Nigricans

I. INTRODUCTION

Hyperpigmentation refers to the development of patches of skin that appear darker than the surrounding areas, and it can also affect the entire surface of the skin. This change in coloration is caused by an overproduction of melanin, the natural pigment present in the skin, leading to deposits that darken its appearance. Hyperpigmentation can occur in individuals of all racial and ethnic backgrounds. One specific form of hyperpigmentation is melasma, which typically manifests as increased pigmentation on sun-exposed areas of the skin, particularly in individuals with darker complexions (1).

During your appointment, the dermatologist will assess the clinical signs to reach a diagnosis and may also review your full medical history. If there is any uncertainty regarding the diagnosis, the dermatologist may conduct a skin biopsy, as dermatitis neglecta can resemble several other skin disorders. Careful evaluation is crucial to ensure an accurate diagnosis. Potential conditions to consider include: verrucous nevi, pityriasis versicolor, acanthosis nigricans, post-inflammatory hyperpigmentation and frictional hyperkeratosis (2).

II. MATERIAL AND METHODS

A. CASE DESCRIPTION

A 14-year-old female patient presented with primary concerns of multiple dark flat skin lesions and a few dark

raised lesions on her neck, which have been present for one month (Fig.1). The patient reported no history of itching, pain, or any associated symptoms. The lesions were asymptomatic at first, starting as pea-sized and gradually enlarging to their current size over the course of one month. There was no significant family history noted. Her general practitioner referred her for investigations related to diabetes and insulin resistance.

After conducting a thorough medical history and examination, I have ruled out most causes of skin hyperpigmentation, including:

1. Familial acanthosis nigricans which can occur due to an autosomal dominant inheritance pattern, typically presenting at birth or during childhood. This condition is associated with mutations in the fibroblast growth factor receptor 3 (FGFR3) (3).
2. Obesity-associated acanthosis nigricans is one of the most prevalent forms of this condition. While lesions typically manifest in adulthood, they can develop at any age and were previously referred to as “pseudo acanthosis nigricans.” This variant may be related to insulin resistance. Management of obesity through dietary changes, weight loss, or pharmacotherapy often leads to the resolution of acanthosis nigricans (4).
3. Several medications have been connected to the development of acanthosis nigricans. These include nicotinic acid, systemic glucocorticoids, diethylstilbesterol, combined oral contraceptives, growth hormone therapy, oestrogen, protease inhibitors, niacin, and injected insulin. Discontinuation of the offending medication generally results in a resolution of the condition (5).
4. Acanthosis nigricans may also be associated with endocrine dysfunction, which tends to have a more gradual onset and is often less widespread in presentation. Patients typically exhibit obesity. Insulin-resistance syndromes can be categorized into type A (HAIR-AN) and type B syndromes. Type A syndromes are characterized by hyperandrogenaemia, insulin resistance, and acanthosis nigricans. Type B syndromes usually occur in females with uncontrolled diabetes, ovarian hyperandrogenism, or autoimmune conditions such as systemic lupus erythematosus (SLE), Sjogren's syndrome, or scleroderma. Additionally, polycystic ovarian syndrome (PCOS) is linked to acanthosis nigricans, with insulin resistance and hyperandrogenism frequently observed in patients with PCOS (6).
5. Malignant acanthosis nigricans syndrome is associated with gastrointestinal adenocarcinomas and genitourinary cancers, including breast, and ovarian cancers. Lung cancer and lymphoma are rarely linked to acanthosis nigricans. This form of acanthosis may precede, coincide with, or occur following the diagnosis of internal cancer. Typically, malignancy-associated acanthosis nigricans has a rapid onset and is often accompanied by skin tags, multiple seborrheic keratoses (7).
6. Autoimmune acanthosis nigricans is linked to various autoimmune disorders, such as systemic lupus erythematosus (SLE), Sjögren's syndrome, scleroderma, or Hashimoto's thyroiditis (8).
7. Unilateral acanthosis nigricans, also known as naevoid acanthosis nigricans, is a rare condition inherited in an autosomal dominant pattern. In this case, lesions appear unilaterally and may present during infancy, childhood, or adulthood (9).

Dermatitis neglecta, also referred to as unwashed dermatosis, was determined to be our final diagnosis. This condition arises from the accumulation of dirt and dead skin cells on the skin. The primary symptoms include hyperpigmented patches and scaly skin. After cleaning the affected area with isopropyl alcohol, the lesions began to improve (Fig. 2). With regular washing of the area using isopropyl alcohol or soapy water, the lesions were completely resolved within a few days (10)

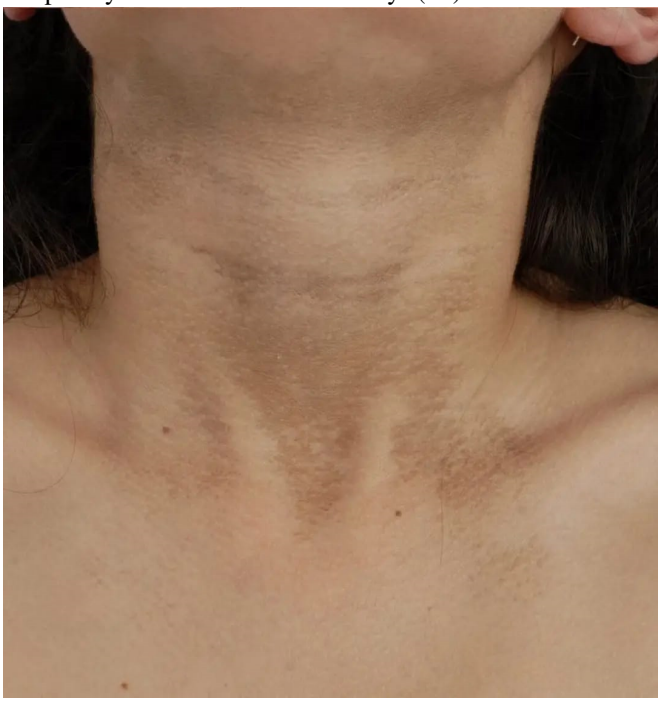

Fig.1 14-year-old child exhibiting Numerous hyperpigmented, velvety lesions observed on the neck. Consent from patient and her parents has been obtained

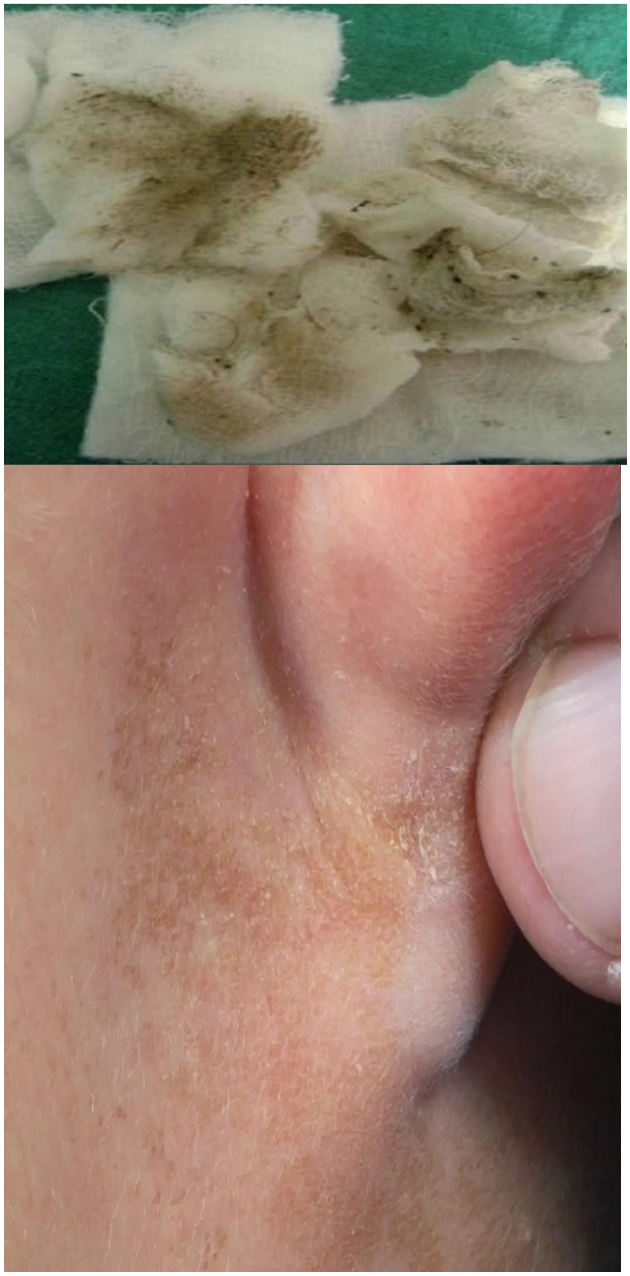

Fig. 2 Lesions on the neck are removing when gently rubbed with cotton and antiseptic solution.
Consent from patient and her parents has been obtained.

III. DISSCUSSION

Dermatitis is a broader term that refers to a range of conditions resulting in skin inflammation. These types may include contact dermatitis, atopic dermatitis (eczema), neurodermatitis, seborrheic dermatitis, nummular dermatitis, dyshidrotic dermatitis, dermatitis artefacta and dermatitis neglecta.

A key distinction between dermatitis neglecta and other forms of dermatitis is that dermatitis neglecta is often easily treatable and preventable through proper hygiene practices. Alcohol swabbing serves as a diagnostic and therapeutic tool in dermatitis neglecta. Swabbing with soap and water also produces more or less similar result; evident in our case. Terra firma forme dermatosis is the closest differential and points favouring its diagnosis are the presence of adequate hygiene, lack of cornflake-like scales, and unresponsiveness of the dirty patch to soap water swabbing. Dermatitis Artefacta is a factitious disorder where lesions are produced or aggravated by patient himself with a background of psychiatric disturbance (11).

IV. CONCLUSIONS

Dermatitis neglecta is characterized by the development of scaly, hyperpigmented patches on the skin, often arising from inadequate hygiene practices. Diagnosis is typically determined through clinical evaluation; however, in certain cases, a dermatologist may opt to conduct a biopsy for confirmation. Contributing risk factors for dermatitis neglecta include advanced age, prior trauma, and surgical procedures. Additionally, individuals with sensitive skin or those living with physical or mental disabilities may be more susceptible to this condition. The primary approach to managing dermatitis neglecta involves consistent daily washing of the affected areas. Regular cleansing and gentle rubbing of the skin can assist in preventing the condition from recurring. In addition, periodic exfoliation using a dry brush may be beneficial. For individuals recovering from surgery who are unable to maintain regular washing routines, it may be advisable to seek assistance from a caregiver, or request support from family and friends. It is important to use fragrance-free cleansers, particularly for those with sensitive skin.

ACKNOWLEDGEMENT

Dermatitis neglecta should be considered as one of the differential diagnoses for acanthosis nigricans and should be considered in the differential diagnosis of all hyperpigmented localized lesions, particularly in individuals with a background of disability.

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