Journal of Advances in Medicine and Medical Research

24(12): 1-4, 2017; Article no.JAMMR.38668
ISSN: 2456-8899
(Past name: British Journal of Medicine and Medical Research, Past ISSN: 2231-0614, NLM ID: 101570965)

Geneneralised Idiopathic Acanthosis Nigricans- A Severe Presentation in a Nigerian Girl

C. R. Madubuko[1*] and A. N. Onunu[1]

[1]Department of Medicine, University of Benin Teaching Hospital, P.M.B. 1111, Benin City, Edo State, Nigeria.

Authors' contributions

This work was carried out in collaboration between both authors. Author CRM designed the study, wrote the protocol and wrote the first draft of the manuscript. Author ANO managed the literature searches. Both authors read and approved the final manuscript.

Article Information

DOI: 10.9734/JAMMR/2017/38668
Editor(s):
(1) Patorn Piromchai, Department of Otorhinolaryngology, Khon Kaen University, Thailand.
Reviewers:
(1) Anindya Dasgupta, Calcutta National Medical College, India.
(2) Mra Aye, Melaka Manipal Medical College, Malaysia.
(3) Sadaf Shaheen, Shaheed Mohterma Banazer Bhutto Medical College Lyari, Pakistan.
Complete Peer review History: http://www.sciencedomain.org/review-history/22530

Case Report

Received 6th December 2017
Accepted 22nd December 2017
Published 30th December 2017

ABSTRACT

Acanthosis nigricans is characterized by hyperpigmented and velvety verrucous plaques observed as symmetric eruptions. We report a 22 year old girl with generalized idiopathic acanthosis nigricans with no family history, who presented with hyperpigmented, hypertrophic and symmetric verrucous lesions at the flexor surfaces of the upper extremities, neck, face, trunk, back and the axillary region. Onset of symptoms started at 10 years and had gradually and steadily increased over a 12 year period. Result of the histopathologic analysis of the punch biopsy of the skin lesions was reported as acanthosis nigricans. Patient was of a normal weight and a thorough screening for internal malignancy was negative. In conclusion, Acanthosis Nigricans though rare can be severe even in benign cases.

Keywords: Idiopathic generalized acanthosis nigricans; insulin resistance.

**Corresponding author: E-mail: rolimadubuko@yahoo.com;*

1. INTRODUCTION

Generalized idiopathic benign acanthosis nigricans is a rare form of acanthosis nigricans with only about nine cases reported [1]. It is often localized on flexor surfaces such as the axilla, posterior neck fold, anterior umbilical, and popliteal and inguinal areas where skin folds [2].

Acanthosis Nigricans may be idiopathic but may also be associated with endocrinal disorders, malignancies, medicines, and genetic syndromes. Besides, acanthosis nigricans may also present autosomal dominant involvement [2].

A 22 year old university student presented to the dermatology clinic with a history of hyperpigmentation and thickening of the skin of about 12 years duration. Symptoms initially involved the neck and face but gradually involved the axilla, cubital fossa, trunk and back. There was no family history of similar lesions. She was not a known diabetic. She had no history of heat intolerance or anterior neck swelling. There was no history suggestive of mental retardation, headaches photophobia or projectile vomiting. There was no history of weight loss, anorexia or malaise. Psychophysical development was normal. Weight, height and body-mass-index were normal according to age and sex.

A thorough physical examination revealed a calm and cooperative young lady with a BMI of 24.5 kg/m^2. She had extensive velvety thickening of the neck, axilla and cubital fossa. There was associated multiple acrocordons on the neck, axilla and cubital fossa with foul smelling sweaty effluents. Furthermore, there was marked generalized hyperpigmention involving the face, trunk, extremities and back. There was no mucosa involvement and no tripe palm.

The patient was thoroughly investigated to rule out malignancy and diabetes mellitus. Some of the investigations done included; glycosylated hemoglobin, fasting blood sugar, full blood count, electroytes, urea and creatinine, liver function tests and serum proteins, chest radiograph, and an abdominal scan. Findings from all investigations done were essentially normal. Result of the histopathologic analysis of the skin biopsy of the skin lesions was reported as acanthosis nigricans showing papillomatosis, basket weave pattern hyperkeratosis, mild hypergranulosis and acanthosis with focal upward projections of finger-like dermal papillae. Superficial dermis indicated the presence of a slight perivascular lymphocytic infiltration. She was subsequently counseled and commenced on moisturizers and topical 0.05% isotretion ointment and oral isotretinoin at 20 milligram daily. She was also referred to the plastic surgeons for removal of multiple skin tags which would provide some cosmetic benefits. Furthermore she was also referred to the Mental health physician in view of the marked psychological effect of the condition. She is to be followed up closely on out-patient basis.

Fig. 1. A 22 yr old lady with Marked velvety thickening of the axilla and cubital fossa with associated hyperpigmentation. Multiple aconchodrons also noted in the axilla

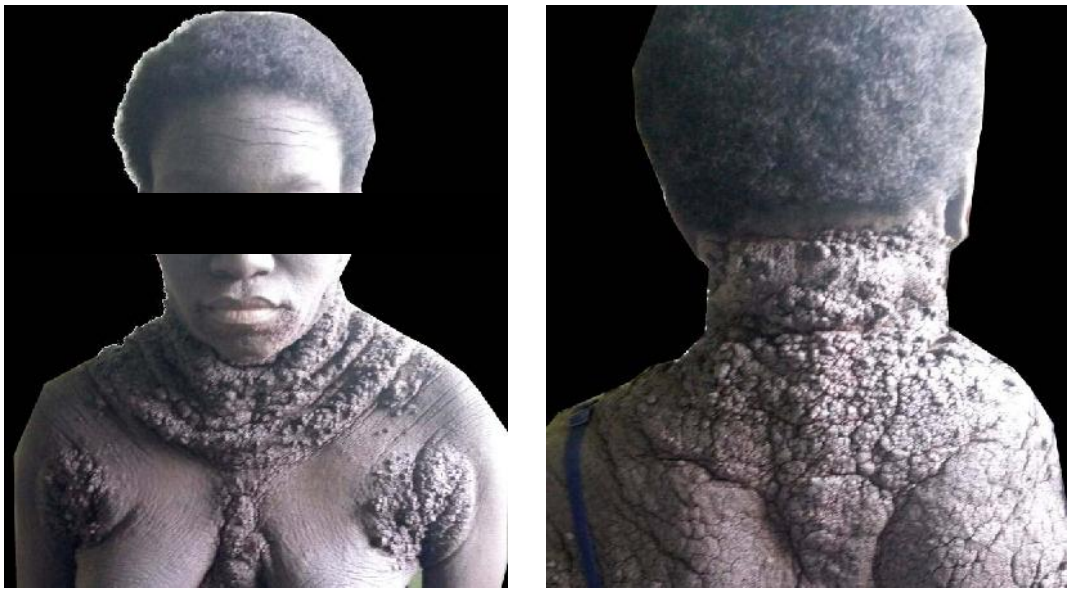

Fig. 2. Extensive velvety thickening with marked papillomatosis more pronounced in the flexural areas especially the axilla and the neck

2. DISCUSSION

Acanthosis nigricans (AN) is a velvety thickening of the epidermis that may signify internal diseases [2]. During childhood, AN is obesity-associated amongst majority of cases, and it is considered an important cutaneous marker of insulin resistance (IR) [3].

Childhood AN is classified into 8 different clinical types: benign, obesity-associated, syndromic, malignant, acral, unilateral, drug-induced, and mixed. Although the aetiopathogenesis of AN remains unclear, proliferation of keratinocytes and dermal fibroblasts could be induced by IR and high levels of insulin binding capacity [3]. Nevertheless, not all types of AN could be related to this mechanism, because hyperinsulinemia is not always present. In fact, in malignant AN, the inductor of keratinocytic growth could be a product of tumor tissue, tumor growth factor α, stimulating epidermal growth factor receptor and thus, inducing proliferation. Moreover, a familial series of non syndromic AN due to mutation of fibroblast growth factor receptor-3 has been recently reported [4].

Benign AN has been considered a rare genodermatosis, inherited as an autosomal dominant trait with variable penetrance. Benign AN may rarely present a generalized involvement of the skin [3]. Vincenzo et al. [1] reviewed eight

cases of generalized benign AN that had been previously documented in literature which showed similar clinical presentations to our case [5-8], with generalized hyperpigmentation and velvety thickening of the skin, sometimes associated with pruritus in otherwise healthy children. However, they found only one of the eight cases [4] had a familiarity for AN. Furthermore, Vincenzo also reported a case of generalized benign AN in a 2 year old Caucasian girl with no family history of the condition [4]. This finding was similar to my our observation, where there was no family history of the condition. They proposed to call it generalized, idiopathic, benign acanthosis nigricans (GIBAN) [1]. This could be considered a singular variant, probably related to a new mutation, occurring for the first time in the family; thus, it is not possible to demonstrate autosomal transmission, due to the absence of familiarity and not being associated with IR or other internal diseases [1].

3. LIMITATION OF STUDY

Measurement of insulin resistance was not done due to marked financial constraint. Its measurement would have buttressed the diagnosis.

4. CONCLUSION

Generalized idiopathic benign acanthosis nigricans (GIBAN) is a rare form of acanthosis nigricans. We report the occurrence of GIBAN with onset during childhood. The condition though benign, in severe cases, may be associated with an unsightly appearance hence early detection and commencement of treatment is necessary to avoid such.

CONSENT

As per international standard or university standard, patient's consent has been collected and preserved by the authors.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Vicenzo P, Teresa R, Rosalba P, Marilena E, Orsola A, Elvira M. Generalized idiopathic beningn acanthosis nigricans in childhood. Ann Dermatol. 2013;25(3):375-77.
2. Schwartz A. Acanthosis nigricans. Journal of the American Academy of Dermatology. 1994;31(1):1–22.
3. Sinha S, Schwartz RA. Juvenile acanthosis nigricans. J Am Acad Dermatol. 2007;57:502–508.
4. Berk DR, Spector EB, Bayliss SJ. Familial acanthosis nigricans due to K650T FGFR3 mutation. Arch Dermatol. 2007;143:1153–1156.
5. Skiljevic DS, Nikolic MM, Jakovljevic A, Dobrosavljevic DD. Generalized acanthosis nigricans in early childhood. Pediatr Dermatol. 2001;18:213–216.
6. Uyttendaele H, Koss T, Bagheri B, Schneiderman P, Silfen ME, Gallagher MP, et al. Generalized acanthosis nigricans in an otherwise healthy young child. Pediatr Dermatol. 2003;20:254–256.
7. Inamadar AC, Palit A. Generalized acanthosis nigricans in childhood. Pediatr Dermatol. 2004;21:277–279.
8. Ozdemir M, Toy H, Mevlitoğlu I, Demirkesen C. Generalized idiopathic acanthosis nigricans treated with acitretin. J Dermatolog Treat. 2006;17:54–56.

Peer-review history:
The peer review history for this paper can be accessed here:
http://sciencedomain.org/review-history/22530