

# Generalized Idiopathic Benign Acanthosis Nigricans in Childhood

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## Introduction

Acanthosis nigricans (AN) is a dermatosis characterized by velvety hyperpigmentation, skin thickening, and papillomatosis. AN is generally associated with endocrine disorders (diabetes mellitus, obesity, polycystic ovary syndrome), drugs, and malignancy. In rare cases, it can be unrelated to any systemic disease. Herein, we report a 5-year-old boy who developed generalized AN without any evidence of internal malignancy or endocrine disorder.

## Case report

- ❖The main complaint was the cosmetic appearance. Hyperpigmentation started at the age of 2 months, around the neck and axilla and spread to other body parts.
- ❖He was born in a non-consanguineous marriage with normal growth and developmental milestones.
- ❖He appeared well on physical examination. His blood pressure was within the normal range. Body weight and height were normal for the patient's sex and age.
- ❖Upon skin examination, velvety skin with hyperpigmentation and thickening were observed, especially involving periscrotal areas, armpits, neck, abdominal wall, and lumbar region. No change was detected in nails, teeth, and mucous membranes( Figure 1).
- ❖Tests for the assessment of biochemical, hormonal, and hematological parameters showed no abnormalities. The test results for blood count, B12, thyroid hormones, insulin, C-peptide, HbA1C, cortisol,ACTH, prolactin, total/free testosterone levels, IGF-1, growth hormone, lipid profile, complete liver and renal function, and oral glucose tolerance were all within normal limits. Tumor markers were negative (Table-1).
- ❖Chest x-ray and abdominal ultrasound were normal.
- ❖Skin biopsy was consistent with the diagnosis of AN, which revealed marked hyperkeratosis, acanthosis, and papillomatosis.

Table 1: Physical Examination and Laboratory Findings

Weight	24.1 (2.0 SDS)
Height	111 cm (0.9 SDS)
Age	4 4/12 yr
Bone age	5 yr
BMI	19.5 (2.2 SDS)
Puberty	Ax1,Ph1, T 2/2 cc
Abdominal USG	Normal
Surrenal USG	Normal
OGTT (0/60/120 min.)	İnsulin: 5.1/11.4/5.2 µU/ml Glucose 85 /99 /84 mg/dl
C-peptit	0.9 ng/ml
IGF-1	81.6 µ/dl
FSH:	0.13 mIU/ml
LH:	<0.05 mIU/ml
Total testosterone	0.7 ng/dl
17-OH Progesterone	0.7 ng/dl
1,4 Androstenedione	0.3ng/ml
DHEA-S:	8.8µg/ml
Cortisole:	15.4 µg/dl
ACTH	18.1pg/ml
HbA1C	5.1%
B12	743 pg/ml
Folat	11.8 ng/ml
Ferritin	19.6 ng/ml

## Discussion

Benign, generalized form of AN, especially in children is extremely rare. We found only 9 case reports in literature. In most cases the generalized form is related with malignancy in adults; therefore it is very important to exclude underlying causes of AN.

### References:

- 1 Das D et al . Piccolo V. Et al. Generalized idiopathic benign acanthosis nigricans. Indian Dermatol Online J 2014
- 2.Piccolo V et al. iGeneralized benign acanthosis nigricans in childhood. Ann Dermatol 2013



Figure 1: Hyperpigmentation on the skin of his neck, abdomen, and genital regions.

