



Acanthosis nigricans (AN) is a **cutaneous disorder** which presents as **symmetric, hypertrophic, velvety, hyperpigmented plaques** on **flexural and intertriginous surfaces**.

In children with obesity, AN is often an **early sign** of **impaired glucose metabolism and insulin resistance**.

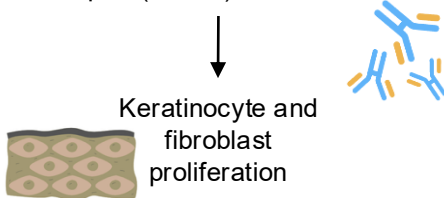
PRESENTATION

- **Hyperpigmented patches** and **velvety** or **thickened plaques**, with ill-defined borders
- **Symmetrical distribution**
- **Common locations**: neck, axillae, back, groin and anogenital region
- **Acral AN**: dorsal aspect of hands, feet, elbows and knees
- **Papillomatous lesions** are common



PATHOGENESIS

Insulin-like growth factor receptor-1 (IGFR1), fibroblast growth factor receptor (FGFR) and epidermal growth factor receptor (EGFR) abnormalities



Hyperpigmented, velvety plaques

ETIOLOGY

ACQUIRED

- **Obesity**
- **Endocrinologic disorders**:
 - Insulin resistance
 - Diabetes mellitus
 - Cushing's syndrome
 - Addison's disease
 - Polycystic ovarian syndrome
- **Drug induced**: testosterone, estrogen

INHERITED

- **Familial**
 - Isolated AN due to mutations in INSR or FGFR3
- **Syndromic**
 - Donohue syndrome
 - Rabson-Mendenhall syndrome
 - Crouzon syndrome
 - Type A insulin resistance syndrome

DIAGNOSIS

Clinical Diagnosis

- **AN** is a **useful clinical marker** to identify children and adolescents at risk of developing **diabetes mellitus**



MANAGEMENT

Treat underlying causes

- **Lifestyle factors** including weight and diet interventions for patients with insulin resistance
- **Discontinue** or **modify doses** of offending medications
- When etiology remains unclear, consider **keratolytics**, **topical retinoids**, **topical Vitamin D analogs**, and **Alexandrite laser therapy**



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