

ACANTHOSIS NIGRICANS

Acanthosis nigricans is a skin disorder characterised by darkening (hyperpigmentation) and thickening (hyperkeratosis) of the skin, occurring mainly in the folds of the skin in the armpit (axilla), groin and back of the neck.

What causes acanthosis nigricans?

The cause for acanthosis nigricans is still not clearly defined but it appears to be related to insulin resistance. It has been associated with various benign and malignant conditions. Based on the pre-disposing conditions, acanthosis nigricans has been divided into seven types.

Types of acanthosis nigricans:

1) Obesity-associated acanthosis nigricans

Most common type of acanthosis nigricans

May occur at any age but more common in teen years and young adult life with obesity and insulin resistance

Obesity often caused by insulin resistance

2) Syndromic acanthosis nigricans

Defined as acanthosis nigricans that is associated with a syndrome, such as hyperinsulinaemia, cushing syndrome, polycystic ovary syndrome, total lipodystrophy, Crouzon syndrome

3) Benign acanthosis nigricans

Also referred to as acral acanthotic anomaly

Thick velvety lesion most prominent over the upper surface of hands and feet in patients who are in otherwise good health

Most common in dark-skinned people, especially those of African American descent

4) Drug-induced acanthosis nigricans

Uncommon, but acanthosis nigricans may be induced by several medications, including nicotinic acid, insulin, systemic corticosteroids and hormone treatments

5) Hereditary benign acanthosis nigricans

Acanthosis nigricans inherited as an autosomal dominant trait

Lesions may manifest at any age, infancy, childhood or adulthood

6) Malignant acanthosis nigricans

Acanthosis nigricans associated with internal malignancy

Patients with malignant acanthosis nigricans tend to be middle-aged, not obese and lesions develop abruptly.

In 25-50% of cases, lesions are present in the mouth on the tongue and lips. Lesions involving the mucosa, palms and soles tend to be more extensive and more severe in malignant acanthosis nigricans.

Pruritus (itching) may be present particularly in this type.

Most common underlying cancer is tumour of the gut (90%) especially stomach cancer

7) Mixed-type acanthosis nigricans

Patients with one type of acanthosis nigricans whom also develop new lesions of a different cause, e.g. overweight patient with obesity-associated acanthosis nigricans who then develops malignant AN.

What are the features of acanthosis nigricans?

Thickened brown velvety textured patches of skin that may occur in any location but most commonly appear in the folds of the skin in the armpit, groin and back of the neck.

Skin tags often found in and around affected areas.

What is the workup for acanthosis nigricans?

It is very important to differentiate acanthosis nigricans related to malignancy from that related to benign conditions. Patients with malignant acanthosis nigricans tend to be middle-aged, not obese and lesions develop abruptly. Tumours in malignant acanthosis nigricans are usually very aggressive and spread quickly. Death often occurs soon after. If malignant acanthosis nigricans is suspected in a patient without known cancer, it is extremely important to perform a thorough

workup for underlying malignancy and identify a hidden tumour. If the tumour can be successfully treated, the condition may resolve.

Other causes of acanthosis nigricans may be identified by screening for insulin resistance and diabetes mellitus.

What is the treatment for acanthosis nigricans?

The primary aim of treatment is to correct the underlying disease process. Often correcting the underlying cause results in resolution of the lesions.

Correct hyperinsulinaemia through diet and medication

Lose weight with obesity-associated acanthosis nigricans

Excise or treat underlying tumour if malignancy-associated acanthosis nigricans.

Stop offending medicines in drug-induced acanthosis nigricans

In hereditary acanthosis nigricans, lesions tend to enlarge gradually before stabilising and/or regressing on their own.

There is no specific treatment for acanthosis nigricans. Treatments considered are used primarily to improve cosmetic appearance and include topical retinoids, dermabrasion and laser therapy.

Final outcome of acanthosis nigricans varies depending on the cause of acanthosis nigricans. Benign conditions either on their own or through lifestyle changes and/or treatment have good outcomes. However, the prognosis for patients with malignant acanthosis nigricans is often poor. The associated cancer is often advanced and the average survival of these patients is approximately two years.