



## BECKER'S NEVUS: AN ANDROGEN DRIVEN CUTANEOUS LESION

## Dermatology

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## ABSTRACT

Becker's melanosis is a benign cutaneous lesion characterized by hyperpigmented patches, often accompanied by increased hair growth. Typical onset is during adolescence and males are predominantly affected. Though its exact etiology remains unclear, hormonal influences, particularly androgens, play a significant role in its development. Histopathological features include epidermal hyperplasia and increased basal pigmentation. While generally asymptomatic and benign, its cosmetic appearance can cause psychological distress.<sup>(1,2)</sup>

## KEYWORDS

## INTRODUCTION:

Becker's melanosis, is characterized by a unilateral hyperpigmented patch, often accompanied by increased hair growth (hypertrichosis). The condition typically arises around puberty and predominantly affects males, suggesting a hormonal etiology, particularly an androgenic influence. It is important for clinicians to distinguish it from other pigmented lesions such as congenital melanocytic nevus, café au lait macules or post inflammatory hyperpigmentation. Histologically becker's nevus is marked by acanthosis, elongation of rete ridges, increased melanin in the basal layer and smooth muscle hamartoma in some cases. Despite its benign nature, Becker's melanosis may be associated with other anomalies in a rare syndrome known as Becker's nevus syndrome, which includes ipsilateral breast hypoplasia, skeletal abnormalities or other cutaneous changes.<sup>(3)</sup> As no standard treatment exists, management is often cosmetic, with laser treatment providing some benefit.

## Case Report:

A 19 year old male came with complaints of a dark-coloured lesion with increased hair over the lesion; over the right hand for past 5 months. On examination a hyperpigmented patch with hypertrichosis was noted over the right forearm. Clinical diagnosis of becker's nevus was made. No other cutaneous lesions were noted. Patient was counselled regarding the nature of the disease and treatment modalities.

## DISCUSSION:

Becker's nevus also known as becker's melanosis or pigmented hairy epidermal nevus first described by becker, appears as well defined, hyperpigmented macule or patch that may become more corrugated or thickened over time while acquiring hair. The pigmentation usually occurs first followed by hypertrichosis. The lesions primarily appears on the upper trunk, shoulder or arm. The lesions of becker's nevus are usually asymptomatic but may cause aesthetic concerns. The onset of lesion is usually around the time of puberty indicating the hormonal influence, particularly that of androgens. Further evidence of androgen influence is supported by male dominance of the lesion. Etiology is poorly understood. Para-dominant inheritance pattern is seen (almost always occurs sporadically). Increased androgen receptors in the lesional skin have been reported. The genetic basis of becker naevus in 60% of the cases has been shown to be mosaicism for ACTB gene variants which encodes Beta actin, proposed to act via Hedgehog pathway signalling.<sup>(4)</sup>

Co-existence of smooth muscle hamartomas is seen. A rare generalized form is characterized by extensive hypertrichosis and folding of the skin which has been reported as "Michelin tire baby"

Differential diagnosis include congenital melanocytic nevus, post-inflammatory hyperpigmentation and café-au lait spots. Histological features include epidermal acanthosis, regular elongation of rete ridges and basal layer hyperpigmentation. Dermoscopy can aid in diagnosis by demonstrating a reticular pigment network.

Becker's nevus syndrome, a rare variant, is characterized by association with breast hypoplasia, Poland anomaly, aplasia or hypoplasia of the pectoralis major muscle, ipsilateral limb hypoplasia, supernumerary nipples (polythelia) and skeletal anomalies such as scoliosis. Sporadic occurrence seen. Rarely genito-urinary tract anomalies can be seen (SNUB syndrome: Supernumerary nipples, uropathies and becker's melanosis).<sup>(5)</sup>

Usually benign, treatment is sought mainly because of cosmetic concern. Electrolysis, laser hair removal, waxing, threading or depilatory creams have been tried for hypertrichosis. Various lasers such as Q-switched lasers, picosecond alexandrite laser, pulsed dye lasers, CO2 laser and Erbium:YAG laser have been tried.<sup>(5)</sup>

## CONCLUSION:

Becker's melanosis is a benign, androgen-mediated cutaneous lesion with characteristic clinical and histological features. While primarily a cosmetic concern, its association with becker's nevus syndrome highlights the need for thorough evaluation in atypical cases. Diagnosis is mainly clinical, with dermoscopy and histopathology assisting when necessary. Though treatment is not mandatory, Laser therapy can offer cosmetic improvement. Given the psychological impact in some patients, empathetic management and counseling are essential.

Conflicts Of Interest: Nil

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**Becker's Nevus – Hyperpigmentation With Hypertrichosis Noted Over Right Forearm.**

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