A Rare Presentation Of Type 1 Segmental Variant Of Darier's Disease In Blaschkoid Pattern - A Case Report

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Abstract

Darier disease (DD), is an uncommon, slowly progressive, autosomal-dominant skin disorder characterized by multiple keratotic papules, loss of adhesion between epidermal cells, and abnormal keratinization. Here we report a 38 year old male who presented with intense itchy hyperpigmented, hyperkeratotic papules and plaques in blaschkoid distribution over right side of face , post auricular region, shoulder, trunk and posterior aspect of right lower limb in a chronic and relapsing course since adolescence for the past 20 years. Based on clinical and histopathological evaluation, diagnosis of type 1 segmental Darier's disease was made. The segmental variant accounts for only 10% of the total cases of Darier's disease, an uncommon disease, with only a very few cases being reported in the literature.

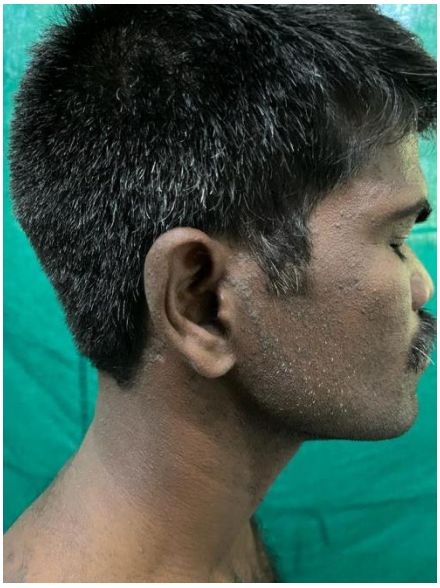
KEYWORDS: Darier's disease, Segmental Darier's disease, Darier's disease in blaschkoid pattern, Linear Darier's disease.

INTRODUCTION :

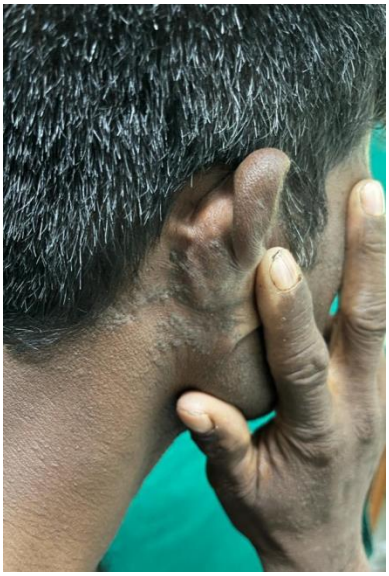
Darier's disease is an uncommon, slowly progressive, autosomal dominant genodermatosis characterized by a persistent eruption of hyperkeratotic, greasy papules mainly over the seborrheic sites of the body, usually associated with nail abnormalities and sometimes with mucous membrane lesions. It caused by mutation in the ATP2A2 gene on chromosome 12q23-24.1 responsible for encoding SERCA2 intracellular Ca^{2+} pump that maintains the low cytoplasmic CA^{2+}. SERCA2 plays an important role in calcium signal transduction and has been identified as the molecular basis of this condition. It has been found that selective inhibition of SERCA pumps interfere with the formation of intercellular junctions and cellular adhesion. It is characterized by multiple keratotic papules and histologically shows loss of adhesion between epidermal cells and abnormal keratinization.

CASE REPORT:

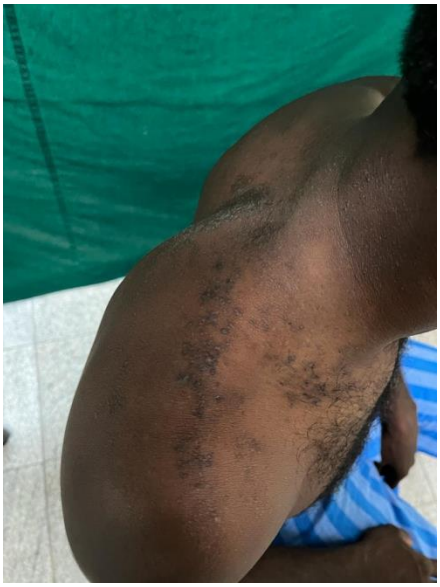
A 38 year old male presented with intense itchy hyperpigmented, hyperkeratotic papules and plaques in blaschkoid distribution over right side of face , post auricular region, shoulder, trunk and posterior aspect of right lower limb in a chronic and relapsing course since adolescence for the past 20 years. Skin biopsy was taken and histopathological examination revealed parakeratosis, acanthosis, acantholysis with dyskeratosis forming corps and rods and features suggestive of Darier's disease. Based on clinical and histopathological evaluation, diagnosis of type1 segmental Darier's disease was made. Patient was started on oral retinoids and topical keratolytic agents. Patient is on regular follow up.



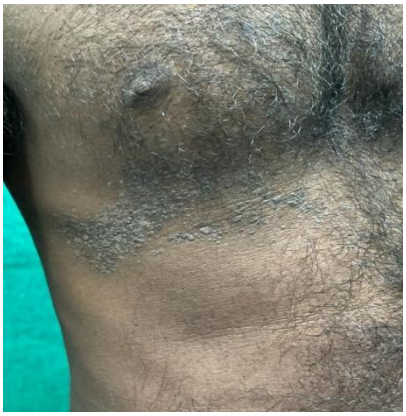
(Figure 1a)



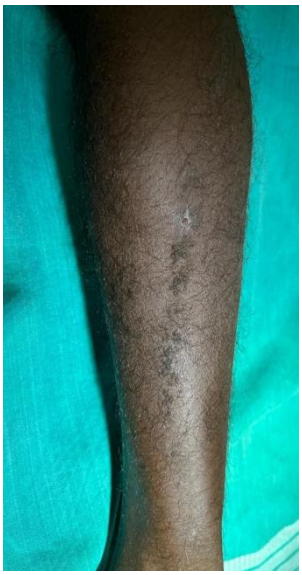
(Figure 1b)



(Figure 1c)



(Figure 1d)



(Figure 1e)

Figures 1a,b,c,d and e : Hyperpigmented, Hyperkeratotic papules and plaques in blaschkoid distribution over Right side of face , Right post auricular region, Right

shoulder, Right side of trunk and posterior aspect of Right lower limb respectively.

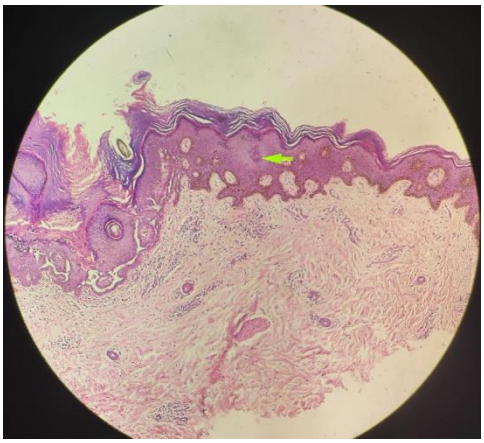


Figure 2 : HPE - H and E ,10X , Showing parakeratosis, acanthosis, acantholysis

with dyskeratosis forming corps and rods and features suggestive of Darier's Disease.

DISCUSSION:

Darier's Disease is characterised by findings such as symmetrical keratotic papules that sometimes coalescence to form plaques, usually localized in seborrheic areas such as trunk, scalp, face, flexures etc . It is usually associated with nail abnormalities and sometimes with mucous membrane lesions . It may be associated with nail dystrophy, palmoplantar pits, cobblestoning of oral mucosa and sometimes with neuropsychiatric abnormalities. The average age of onset is usually during childhood and adolescence, with no gender predilection. Lesions may fluctuate in severity and are often exacerbated by ultraviolet light, heat, occlusion or stress. [1]

In 10% of cases of DD there is localized distribution. Several variants of the localized disease have been observed: unilateral, linear, segmental or zosteriform. In this localized subtypes skin lesions are confined to a limited area, but the involved skin has the same mutations in ATP2A2 gene that occur in the generalized form of the disease. According to Happle's classification of cutaneous mosaicism for genetic disorders, segmental Darier's disease is of two types. Type 1 is characterized by unilateral distribution along blaschko lines and type 2 presents as a widespread disease with localized areas of more severe involvement. The localized forms may be clinically and histologically indistinguishable from nevi with acantholytic dyskeratosis. In our patient, the presentation is that of type1 segmental variant of Darier's Disease showing unilateral distribution along the lines of blaschko. In this variant, the mutation is the same as that of Darier's Disease but this pattern of manifestation is due to Genetic Mosaicism. [2][3]

The diagnosis is usually confirmed by biopsy with histopathologycal examination. The histological characters of suprabasal acantholysis with typical "corps ronds" and "grains" are the clues for diagnosis. Corps ronds are acantholytic enlarged keratinocytes in the malpighian layer with darkly staining and partially fragmented nuclei surrounded by a clear cytoplasm and encircled by a bright ring of collapsed keratin bundles. 'Grains' are small, oval cells in the stratum corneum characterized by an intensely eosinophilic cytoplasm composed of collapsed keratin bundles containing shrunken parakeratotic nuclear remnants. Differential diagnosis for generalised DD includes Hailey–Hailey disease, Grover disease, lichen planus , psoriasis, and pityriasis rubra pilaris and the differential diagnosis of segmented DD include herpes zoster, linear nevoid disorders, lichen striatus, and lichen planus. The chronic nature, family history and charateristic dirty warty papules and plaques along with histopathology evaluation confirms the diagnosis of type 1 segmental Darier's disease in our patient. [4][5]

Treatment modalities include topical agents such as salicylic acid, lactic acid, urea , and retinoids such as retinoic acid and tazarotene. Systemic retinoids mainly isotretinoin have also been shown to be effective. If medical therapy is ineffective, carbon dioxide laser and erbium: YAG laser have been used for chronic, recalcitrant cases. [6][7][8]

CONCLUSION:

The segmental variant accounts for only 10% of the total cases of Darier's Disease, an uncommon disease, making this a rare presentation with only very few cases being reported in the literature . This variant of Darier's disease, though rare, should be kept in mind and be considered as a part of differential diagnosis for Linear dermatosis.

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