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Case Report

Darier Disease: A Case Report with Psychiatric Involvement

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ABSTRACT

This case report outlines the clinical presentation and management of a 35-year-old female diagnosed with Darier disease, a rare autosomal dominant disorder resulting from an ATP2A2 gene mutation. The patient's atypical disease course, featuring facial involvement and a history of psychosis and depression with characteristic features, such as hyperkeratotic papules and nail changes, were noted was managed with a three-month isotretinoin regimen and concurrent antipsychotic therapy for coexisting depression and psychosis. This case highlights the need for a comprehensive, multidisciplinary approach to address both dermatological and psychiatric aspects in the management of Darier disease. The coexistence of psychiatric conditions in the form of depression and psychosis adds complexity to the clinical picture. This case emphasizes the importance of considering these factors in the diagnosis and treatment of Darier disease.

Keywords: Darier Disease, Mental Health Outcomes, Case report, Facial Lesions, Hyperkeratosis, Antipsychotics.

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INTRODUCTION

Darier disease, also referred to as Darier-White disease or keratosis follicularis, is a rare autosomal dominant disorder due to a mutation in the ATP2A2 gene, which encodes the calcium pump within the Endoplasmic Reticulum (ER). Exhibiting prevalence within the range of 1:30,000 to 1:100,000, Darier disease impacts individuals of both genders equally.[1,2] Despite its predominant hereditary nature, around 40-50% of cases arise from sporadic mutations.[3]

Typically, Darier disease manifests in childhood and persists throughout adulthood, presenting as red or brown hyperkeratotic plaques and papules. These manifestations commonly develop in seborrheic areas and are often accompanied by itching and malodor.[4] Despite its well-documented dermatological features, Darier disease can have a significant impact on an individual's psychological well-being, as exemplified by the case of our patient.[5]

We present here a case report of a 35-year-old female with a 30-year history of Darier disease, emphasizing a unique aspect of the disease-facial involvement-and the coexistence of depression. The convergence of these clinical elements not only highlights the diverse presentation of Darier disease but also underscores the importance of considering the psychosocial impact of dermatological disorders.

CASE HISTORY

A 35-year-old female presented at Vivekanand General Hospital in Hubballi, Karnataka, India. She exhibited itchy dark lesions on her face, neck, back, bilateral upper limbs and lower limbs, which had worsened over the past month. She developed discrete dark-colored facial lesions at the age of seven. Over the subsequent 8 years, these lesions progressed to involve the trunk, bilateral upper limbs and lower limbs. A biopsy conducted on 10/3/20 led to the diagnosis of Darier disease. The patient was prescribed isotretinoin 20 mg 1-0-0 for a three-month duration.

Additionally, the patient had a history of depression and psychosis for 15 years. She was under treatment with Tab Risperidone 2 mg 1-0-1, Tab Trihexyphenidyl 2 mg 0-1-0 and Tab Chlorpromazine 100 mg 0-0-1. Although her parents had no similar history, her daughters exhibited similar symptoms. The patient presented with exacerbated lesions over the past month upon sunlight exposure.

Clinical examination revealed ill-defined scaling on the scalp and oral cavity, along with hyperpigmentation on the buccal mucosa and palms. Nail examination showed white longitudinal stripes with subungual hyperkeratosis (Figure 1-white longitudinal stripes with subungual hyperkeratosis). No lesions were observed in the genital area. Multiple discrete to coalescing, well to ill-defined demarcated hyperpigmented warty plaques and papules were evident over the face (Figure 2-Hyperpigmented

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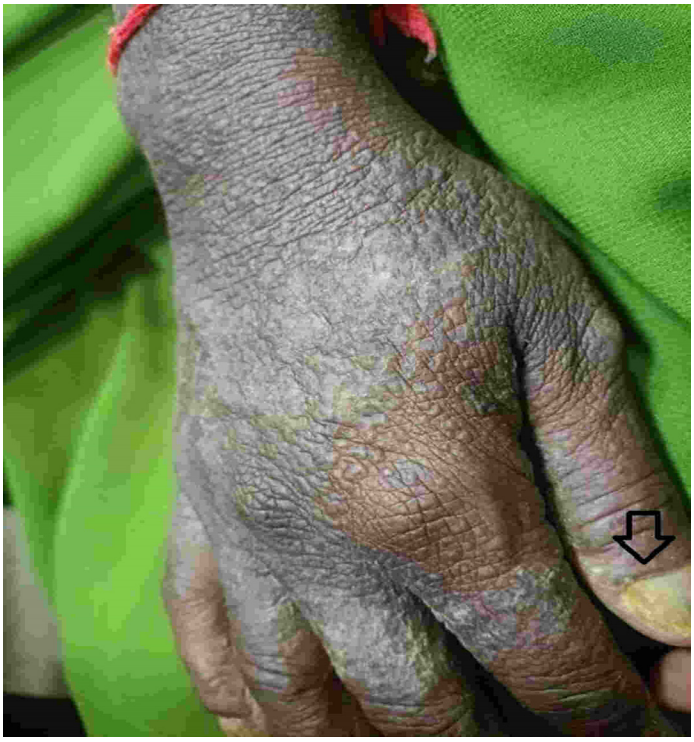

Figure 1: White longitudinal stripes with subungual hyperkeratosis.

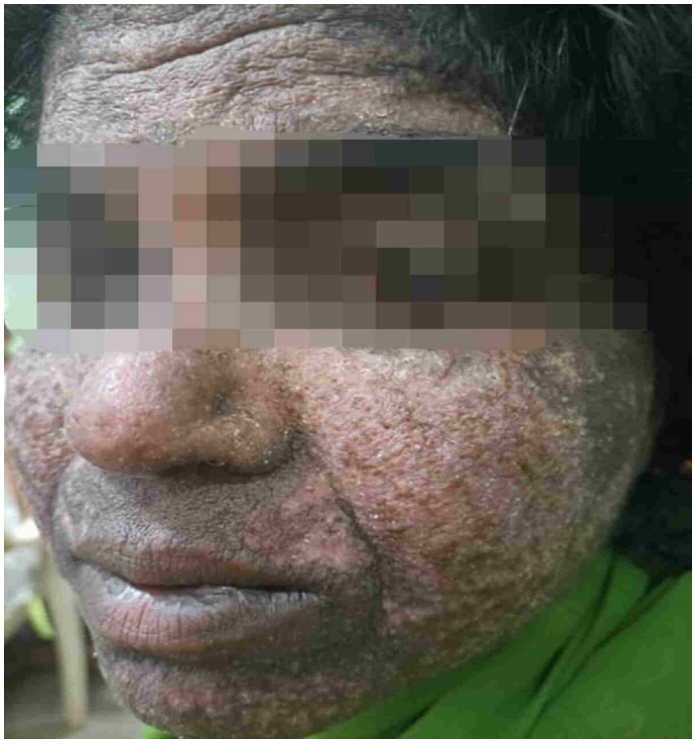

Figure 2: Hyperpigmented warty plaques and papules involving face.

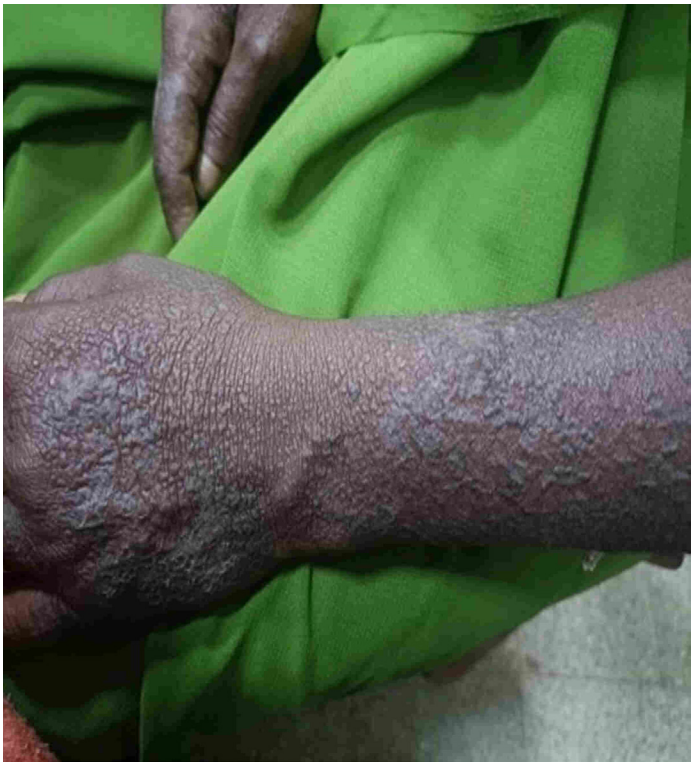

Figure 3: Demarcated hyperpigmented lesions involving left arm.

warty plaques and papules involving face), both upper limbs (Figure 3-demarcated hyperpigmented lesions involving left arm), lower limbs, groin, upper chest and back.

The patient was treated with liquid paraffin L/A 1-0-1, Tab Chlorpheniramine 4 mg 0-0-1, Tab Cetirizine 10 mg 1-0-0, multivitamins and sun protection L/A 1-1-0. Tretinoin 0.025% 0-0-1 was also initiated. The treatment plan included continued use of antipsychotics. The patient was symptomatically better, discharged and advised to continue the same medications.

DISCUSSION

Darier disease is a rare autosomal dominant inherited disorder caused by a mutation in the ATP2A2 gene, located on chromosome 12q23-24.1. The ATP2A2 gene encodes for SERCA2, a calcium pump widely expressed in the epidermis. SERCA2 plays a crucial role in cellular function by facilitating the transport of calcium from the cytosol to the Endoplasmic Reticulum (ER) lumen. However, in the presence of a mutation in SERCA2, this vital calcium pump is compromised, leading to an imbalance in cellular calcium homeostasis. The consequence of the mutation is particularly significant, as it triggers cell apoptosis, resulting in dyskeratosis. This dysregulation of cellular processes manifests clinically as the characteristic features of Darier disease.[6]

The hallmark features of Darier disease primarily manifest as hyperkeratotic papules, typically observed in seborrheic areas such as the forehead, hair margin and flexures. Notably, facial involvement is considered uncommon in the general presentation of this disorder. However, our case deviates from this norm, as the patient presented with notable facial lesions. Characteristic involvement of the nails is a distinctive aspect of Darier disease, marked by the presence of red longitudinal bands and subungual hyperkeratosis. Oral lesions, while not universally present, exhibit a prevalence ranging from 15-50%. These lesions manifest as fine granules to a coarse appearance and are observed less frequently in the sublingual and subdural areas.[4]

Research suggests an association between Darier's disease and psychiatric conditions, particularly depression and bipolar disorder. Individuals with Darier's disease may have an increased risk of psychiatric illnesses or depressive symptoms due to a hypothesized pleiotropic effect of the gene mutation. Depression is common in Darier's disease and our case reports a history of depression and psychosis but there are no suicidal attempts. Establishing a conclusive link between Darier's disease and psychiatric illnesses requires further studies, considering emotional problems and social isolation. Comprehensive research is essential to understand the complex interplay between genetic factors, skin manifestations and mental health outcomes.[7]

Darier's disease presents a treatment challenge with no specific cure identified. Common therapeutic approaches involve using topical corticosteroids and retinoids, though caution is needed with retinoids due to potential exacerbation of psychiatric symptoms, as suggested by some studies. Management of Darier's disease emphasizes fundamental measures like maintaining personal hygiene and avoiding triggers such as sunlight and heat as they help to alleviate symptoms and improve overall quality of life. While retinoids are frequently prescribed, their potential impact on psychiatric symptoms requires careful consideration, especially in patients with a history of depression and psychosis. Treatment should be individualized, focusing on symptomatic relief benefits against potential risks of psychiatric exacerbations.[5]

CONCLUSION

In conclusion, our case report highlights an unusual presentation of Darier disease with facial involvement in a 35-year-old female. The patient's history revealed a prolonged course of the disorder, evolving from childhood facial lesions to widespread skin involvement. Notably, the coexistence of psychiatric conditions in the form of depression and psychosis adds complexity to the clinical picture. This case emphasizes the need for a comprehensive, multidisciplinary approach to address both dermatological and psychiatric aspects in the management of Darier disease.

ACKNOWLEDGEMENT

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

ABBREVIATIONS

DD: Darier Disease; **ER:** Endoplasmic Reticulum; **SERCA2:** Sarco(endo)plasmic reticulum calcium-ATPase 2.

PATIENT'S CONSENT

The authors affirm that they have secured all necessary patient consent forms. In these forms, the patient(s) have granted permission for the reporting of their images and other clinical details in the journal. The patients are aware that their names and initials will not be disclosed and diligent efforts will be made to safeguard their identity. However, complete anonymity cannot be guaranteed.

REFERENCES

1. Tavadia S, Mortimer E, Munro CS. Genetic epidemiology of Darier's disease: a population study in the west of Scotland. Br J Dermatol. 2002;146(1):107-9. doi: 10.1046/j.1365-2133.2002.04559.x, PMID 11841374.
2. Takagi A, Kamijo M, Ikeda S. Darier disease. J Dermatol. 2016;43(3):275-9. doi: 10.1111/1346-8138.13230, PMID 26945535.
3. Engin B, Kutlubay Z, Erkan E, Tüzün Y. Darier disease: A fold (intertriginous) dermatosis. Clin Dermatol. 2015;33(4):448-51. doi: 10.1016/j.clindermatol.2015.04.009, PMID 26051059.
4. Burge SM, Wilkinson JD. Darier-White disease: a review of the clinical features in 163 patients. J Am Acad Dermatol. 1992;27(1):40-50. doi: 10.1016/0190-9622(92)70154-8, PMID 1619075.
5. Yang JJ, Lopes RS, Pereira MC, Tebcherani AJ, Pires MC. Severe Darier's disease in a psychiatric patient. An Bras Dermatol. 2015; 90(3); Suppl 1: 66-8. doi: 10.1590/abd1806-4841.20153620, PMID 26312677.
6. Cooper SM, Burge SM. Darier's disease: epidemiology, pathophysiology and management. Am J Clin Dermatol. 2003;4(2):97-105. doi: 10.2165/00128071-200304020-00003, PMID 12553850.
7. Gordon-Smith K, Jones LA, Burge SM, Munro CS, Tavadia S, Craddock N. The neuropsychiatric phenotype in Darier disease. Br J Dermatol. 2010;163(3):515-22. doi: 10.1111/j.1365-2133.2010.09834.x, PMID 20456342.

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