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Case Report

Intraoral ulcerative darier's disease: A rare case report

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Abstract

Darier's disease or keratosis follicularis is a rare autosomal dominant genodermatosis which usually shows no clear family history due to incomplete penetrance. Characteristically this disease manifestants as greasy, crusted, keratotic, yellow brown warty papules and plaques particularly over seborrhoeic areas and less frequently involving other sites or mucosa. Here we present an unusual case of intraoral darier's in a 37-year-old male patient who presented with well to ill-defined erythematous ulcers on bilateral buccal mucosa, upper lip and tongue since past 6-7 months. Patient was diagnosed as a case of darier's with the help of histopathological findings and was started on oral acitretin 25mg twice daily which led to significant improvement after 3 months of therapy.

Keywords: Genodermatoses, Keratosis follicularis, Seborrhoeic

Introduction

Darier's disease or keratosis follicularis is a rare autosomal dominant genodermatosis, which characteristically shows greasy, crusted, keratotic, yellow brown warty papules and plaques particularly over seborrhoeic areas. Although it is autosomal dominant disease, most patients show no clear family history, presumably due to incomplete penetrance [1]. This disease was first described by Prince Marrow in 1886 and simultaneously by Darrier and White in 1889, independently. In 1917, the first case with oral manifestation was reported by Reenstierna [2]. The prevalence of this disorder in the population is 1: 100,000. The sex incidence is equal, although the males appear to be more severely affected than females. The oral mucosa is

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affected in 50% of the cases [3].
Here, we report a rare case of intraoral ulcerative Darier's disease without cutaneous involvement.

Case report

A 37-year-old male patient presented to Dermatology OPD of Mahatma Gandhi Hospital, Jaipur with well to ill-defined erythematous ulcers on bilateral buccal mucosa, upper lip and tongue since past 6-7 months (Fig. 1).
Initially, the patient experienced burning sensation and dryness of mouth. After a month the condition got worse and patient experienced difficulty in chewing and swallowing of both liquid and solid foods.
Patient was a non-alcoholic and non-smoker. The family history was non-contributory. On mucosal examination, multiple ill-defined oral ulcers with erythematous base having irregular margins and covered with whitish slough were present with few coalescing papules around them over bilateral buccal mucosa.

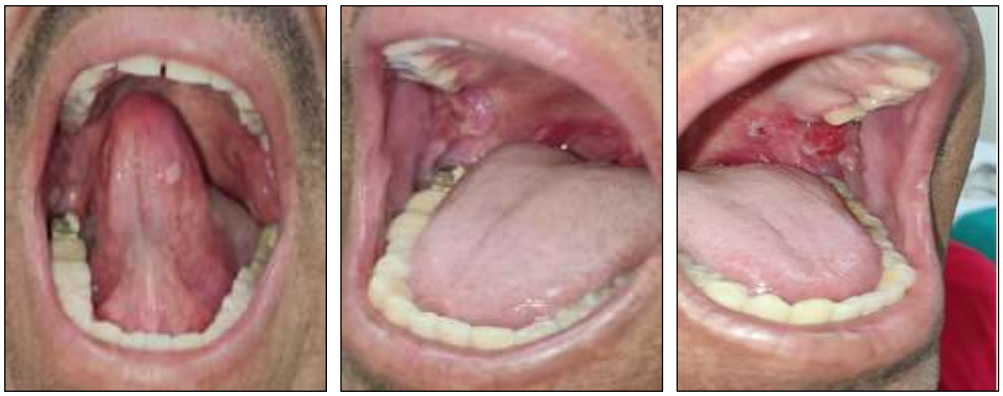

Fig 1: Well to ill-defined erythematous ulcer over (A) base of tongue, multiple oral ulcers with few coalesced papules over (B) right and (C) left buccal mucosa

Single well-defined ulcer with regular margin, covered with yellowish white slough present over base of tongue. On palpation ulcer was mildly tender and non-indurated. Extraorally, the patient showed no recognizable signs of the disease. Nails and other mucosae were spared.

A 2 mm punch biopsy for histopathological examination (HPE) and direct immunofluorescence (DIF) was done, keeping the differentials of Pemphigus vulgaris and Erosive lichen planus. HPE revealed the presence of suprabasal split in the epithelium with acantholytic and dyskeratotic cells observed as corps ronds (cells with small pyknotic nuclei and eosinophilic cytoplasm) (Fig. 2) and granular corpuscles and was reported as keratosis follicularis. DIF was negative. Other blood investigations like complete blood count, liver function tests and kidney function tests were normal.

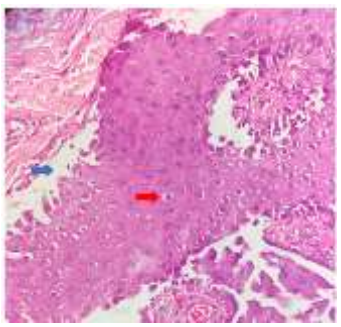

Fig 2: Histopathological image shows suprabasal split in the epithelium (blue arrow) with cantholytic and dyskeratotic cells resembling corps ronds (red arrow)

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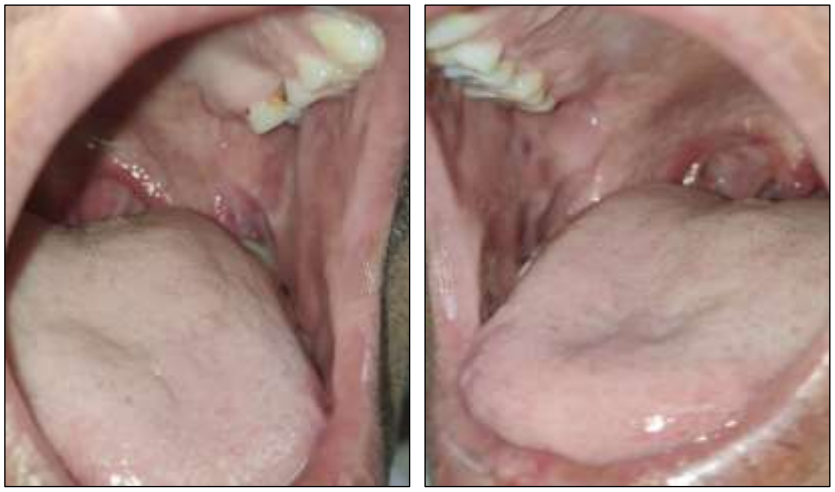
Oral Acitretin 25mg twice daily was started along with triamcinolone acetonide (0.1%) oral paste twice daily application, vitamin A supplements and antiseptic solutions to improve oral hygiene. There was significant improvement in oral lesions after 3 months of therapy (Fig.3).



A **B**

Fig 3: Significant improvement in oral lesions after 3 months of therapy (A) left and (B) right buccal mucosa

Discussion

Darier's disease is an autosomal dominant disease with high penetrance and variable expressivity. Although this disease is inherited, novel mutations of the gene can also pass to next generation causing isolated cases without family history as in our patient [4]. Absence of family history could also be attributed to the fact that mild forms of the disease have not been recognized among the family members. Mutations in the ATP2A2 gene found on chromosome 12q encoding for a sarco/endoplasmic reticulum calcium ATPase pump (SERCA2) type 2 isoform, is the cause of the disease. Ca^{2+} ATPase transports Ca^{2+} from the cytosol back to the endoplasmic reticulum lumen, hence, mediates stability and adhesion of desmosomes. The mutation in this gene affects Ca^{2+} homeostasis resulting in desmosomal in stability and adhesion abnormalities leading to acantholysis and blisters [4, 5].

Histologically, Darier's disease is characterized by acantholysis which forms suprabasal clefts and also formation of "corps ronds and grains" superficially. Corps ronds are usually present in the granular cell layer and show central large round dyskeratotic basophilic masses surrounded by a clear halo-like zone. Darier's disease must be distinguished histologically from other acantholytic dyskeratoses [6].

Oral lesions are detected in approximately 15% of the patients, and they appear as white papules with a central depression [7]. Here, we report a rare clinical presentation of ulcerative Darier's disease confined to the oral cavity without cutaneous/nail involvement.

Conclusion

We are reporting this case as intraoral ulcerative Darier's disease without cutaneous and nail involvement (a very rare entity) and to the best of our knowledge such a case has not been reported. Histopathological examination is of paramount importance to arrive at definitive diagnosis in such cases. Regardless of the clinical severity and treatment options, the patient should receive genetic counselling with information on the inherited condition and risk of transmission to the off springs.

References

1. Sakuntabhai A, Ruiz-Perez V, Carter S, *et al*., Mutations in ATP2A2, encoding a Ca2+ pump, cause Darier disease, Nature.
2. Bernabé DG, Kawata LT, Beneti IM, Crivelini MM, Biasoli ER. Multiple white papules

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in the palate: oral manifestation of Darier's disease, Clinical and Experimental Dermatology. 2009;34(7):e270-e271.

3. Jalil AA, Zain RB, Van der Waal I. Darier disease: a case report, British Journal of Oral and Maxillofacial Surgery. 2005;43(4):336-338.
4. Burge SM, Wilkinson JD. Darier-White disease: a review of the clinical features in 163 patients, Journal of the American Academy of Dermatology. 1992;27(1):40-50.
5. Prindiville DE, Stern D. Oral manifestations of Darier's disease, Journal of Oral Surgery. 1976;34(11):1001-1006.
6. Mckee PH. Pathology of the Skin with Clinical Correlations, Mosby, Philadelphia, Pa, USA, 2nd edition, 1996.
7. Bchetnia M, Charfeddine C, Kassar S, *et al*., Clinical and mutational heterogeneity of Darier disease in Tunisian families, Archives of Dermatology. 2009;146(6):654-656.