



ISOTRETINOIN INDUCED ALOPECIA – A CASE REPORT

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ABSTRACT

A 23 year old unmarried female patient, resident of Port Blair, Andaman and Nicobar Islands was admitted in the dermatology ward of ANIIMS on 13th September 2016 with the chief complaints of a bald patch over the frontal portion of head for about one month. Patient was a diagnosed case of Acne Vulgaris. The patient was advised to take Isotretinoin tablets 50 mg twice daily with Clindamycin 1% topical ointment and some dietary modifications on 4th August 2016. After a month of treatment initiation, patient noticed a patch of baldness over the frontal portion of head and she reported it to the Dermatology department. Tretinoin tablet was stopped and skin scrapings were taken for fungal examination which later came out to be negative, thyroid profile was within normal limits and blood counts were also normal thus excluding any sort of infection.

KEYWORDS: Acne Vulgaris, Isotretinoin, Alopecia.

INTRODUCTION

Acne results from sebaceous gland hyperplasia, follicular hyperkeratosis, Propionibacterium acnes colonization, and inflammation. Systemic Retinoids are approved for the treatment of acne, psoriasis and cutaneous T cell lymphoma. Off label uses include ichthyosis, Darier's Disease, pityriasis rubra pilaris.^[1]

Isotretinoin is approved for the treatment of recalcitrant and nodular acne vulgaris. The drug has remarkable efficacy in severe acne and may induce prolonged remissions after a single course of therapy. All systemic retinoids are contraindicated in the women who are pregnant or breast feeding. Relative contraindications include leukopenia, hypothyroidism, hypercholesterolemia, significant hepatic or renal disease.^[1]

MECHANISM OF ACTION

Isotretinoin is the only therapy that impacts on all of the major aetiological factors implicated in acne. It achieves this remarkable efficacy by influencing cell-cycle progression, cellular differentiation, cell survival and apoptosis.^[2] Oral isotretinoin has no direct antimicrobial action, but by dramatically reducing SER and the size of the pilosebaceous duct it alters the microenvironment within the duct making it much less favorable to colonization with P. acnes. The result is a log3 reduction

in P. acnes —a suppression much greater than that seen with oral and topical antibiotics.^[3]

TOXICITY

Acute retinoid toxicities include mucocutaneous or laboratory abnormalities, bony changes may occur after chronic use at high doses. Mucocutaneous side effects may include cheilitis, xerosis, blepharoconjunctivitis, cutaneous photosensitivity, photophobia, myalgia, arthralgia, headache, alopecia (occurs in 5% of the subjects).^[4] Nail fragility and increased susceptibility to nail infections. Clinical effects are noted within 1-3 months of starting the therapy. Approximately one third patients relapse within 3 years of starting the therapy, although most relapses are mild and respond to conventional treatment options. There are several reports of patients developing depression with use of tretinoin.^[1] Other side effects are hypercalcemia, hyperlipidemia, raised intracranial tension, premature fusion of epiphysis, depression and psychosis.^[5] Isotretinoin also affects Biotinidase Activity in human body and this biotinidase is essential for the growth of hair follicles. Biotinidase is mainly produced in the liver and partial biotinidase deficiency causes dermatological manifestations, seborrheic dermatitis, alopecia etc.^[6]

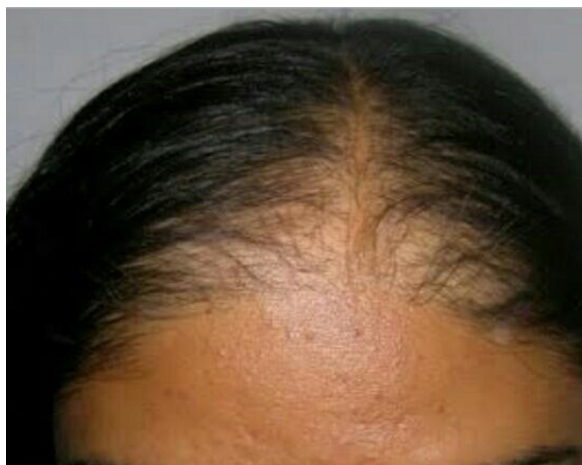
CASE REPORT

We present a case of 23 year old female patient who presented in the dermatology OPD with the chief

complaints of bald patch over the frontal aspect of forehead since 1 month after starting the use of Isotretinoin tablets for Acne vulgaris. The patch was not associated with itching or redness and any other symptom. The past history was not significant. On clinical examination findings suggested a bald patch in frontal aspect of forehead. No fungal pathology was suspected. In investigations Complete blood count and fungal scrapings was done and nothing abnormal was detected. Isotretinoin is stopped and patient is on Clindamycin ointment and is currently on follow up.

OBSERVATIONS

23 year old female patient with frontal hair loss after use of Isotretinoin tablets.



DISCUSSION

In a study conducted by Schulpis et al in 1999 on 42 patients with severe cystic acne, liver function tests, lipid estimations, serum biotin as well as biotinidase activity evaluations before (value 1) and on the 30th day (value 2) of treatment with isotretinoin monotherapy were done. This study concluded that isotretinoin isomers - metabolites act in the liver, resulting in low biotinidase activity.^[6] This decreased biotinidase activity is responsible for development of alopecia. Therefore we conclude that Isotretinoin might have caused alopecia in this 23 year old female patient.

ABBREVIATIONS

ANIIMS:- Andaman and Nicobar Islands Institute of Medical Sciences.

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