

TOPICAL TRETINOIN IN ACANTHOSIS NIGRICANS

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Efficacy of topical tretinoin was assessed in 30 cases of idiopathic acanthosis nigricans which were recalcitrant to conventional modalities of treatment. Topical tretinoin once at night application was found to be very effective both clinically and histologically.

Key Words : Acanthosis nigricans, Tretinoin

Introduction

Acanthosis nigricans is characterised by hyperkeratosis and pigmentation with papillomatous elevation which gives it a velvety texture.¹ The present study includes only the idiopathic cases of the original classification.^{2,3} The effect of topical tretinoin (0.05%) was observed in those cases which were not responding satisfactorily or resistant to conventional modalities of management.

Materials and Methods

The study group comprised 30 cases of acanthosis nigricans. Age ranged between 14-42 years, 23 of them were female and 7 male. They were suffering for varying duration. Cases due to secondary causes (malignancy, drugs etc) were excluded and in the present study only the idiopathic cases were dealt with.

Topical tretinoin (0.05%) was applied over the affected areas once at night, patients were followed up fortnightly for 2 months and then monthly for another 2 months. Biopsies were done both before and after in selected cases.

Relapse was noted within a period of 4 weeks after discontinuation of topical tretinoin. These patients were put on a twice weekly

intermittent regimen. Stray cases of local irritation after tretinoin application were managed with emollient cream.

Results

Clinical improvement was evident in all cases after 2 weeks of application of tretinoin (0.05%). Atleast 50% improvement of the velvety appearance was seen within 6 weeks. 24/30 patients (80%) showed total clearance of lesions after 16 weeks (Table I).

Table I. Reduction of velvety appearance

Weeks	0	2	4	6	8	12	16
Grade-2	0	0	7	10	14	20	24
Grade-1	0	23	21	20	16	10	6
No Change	30	7	2	0	0	0	0

*Grade - 1 - >50% improvement

*Grade - 2 - total disappearance of lesions

Hyperpigmentation was comparatively resistant. Only 7/30 cases (23%) showed total clearance at the end of our study (Table II).

Table II. Reduction of hyperpigmented appearance

Weeks	0	2	4	6	8	12	16
Grade-2	0	0	0	0	2	4	7
Grade-1	0	4	12	17	19	23	23
No Change	30	26	18	13	9	3	0

*Grade - 1 - >50% improvement

*Grade - 2 - total disappearance

One patient went on applying tretinoin daily rather over enthusiastically, even after complete clearing of lesion and after 8 weeks

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reported with hypopigmentation over the area.

Histopathologically hyperkeratosis and typical keratotic material in the valleys between the papillae were seen³ (Fig. 1). After 8 weeks of tretinoin application the epidermis looked quite normal (Fig. 2).



Fig. 1. Typical histopathology of acanthosis nigricans showing hyperkeratosis and keratotic material in the valleys between the papillae (H&Ex100).

Relapsed cases were managed effectively with a twice weekly intermittent application regimen.

Discussion

Acanthosis nigricans is usually resistant to treatment. If an underlying cause is there (eg malignant tumour) removal of it may improve the condition, which is however, rarely complete.¹

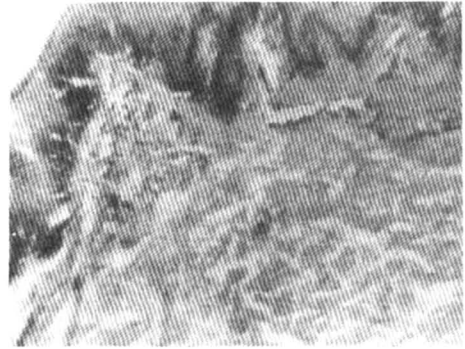


Fig. 2. Normal histology after 8 weeks of tretinoin application (H&Ex100).

The action of tretinoin on the epidermis is well substantiated in various papers. It is definitely epidermopoietic and causes reduction of stratum corneum replacement time.^{4,5} It corrects hyperkeratosis and nearly complete reversion to the normal state is also reported.⁶

Treatment of pseudoacanthosis nigricans with 0.1% tretinoin twice daily for 2 weeks reportedly showed a decrease in both hyperpigmentation and hyperkeratosis.⁷ Complete nerve deafness, progressive peripheral sensory nerve demyelination, loss of gastric antral motility, multiple diverticula in the ileum and steatorrhea associated with extensive acanthosis nigricans responded to twice weekly application of 0.1% retinoic acid ointment.⁸ Treatment of acanthosis nigricans with tretinoin is reported in recent papers also.⁹

In our study we used 0.05% tretinoin in cream base once at night and the results are quite encouraging and comparable with the results of other studies using more frequent application schedule of higher concentration of tretinoin. But it was also found that intermittent tretinoin application was needed to maintain the improved status.

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