

PUVASOL THERAPY IN PREMATURE GREYING OF HAIR

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Accidental observation of cure of premature greying in a patient who had been on PUVASOL therapy for psoriasis made the author to try this form of therapy in 37 patients with premature greying. Majority (59.09%) of the patients were aged between 10 and 15 years. Complete repigmentation of the hairs was noted in 17 patients after treatment. Seven patients responded only partially, and in 8 there was no response at all.

Key words : Premature greying, Canities, PUVASOL.

Psoralen is extensively used for the treatment of vitiligo, psoriasis and various other dermatoses. Premature greyness of hair (canities), refers to a decoloration especially of the scalp hairs at an age earlier than that which is acceptable as physiologic whitening or greying.¹ It develops before the age of 20 years in Caucasoids and before 30 in Negroids.² It is often familial and transmitted as an autosomal dominant trait.³ Accidental observation of cure of premature greying in a patient on PUVASOL therapy for psoriasis, made us to study the effectiveness of this form of treatment in a few patients with premature greying.

Materials and Methods

All the patients seen from April, 1982 to March, 1984 were examined for any premature greying. Detailed clinical examination and relevant laboratory tests were done in all cases to exclude any systemic disease. A family history of premature greying or any other skin disease, if any, were recorded. Only those who had onset of greying of scalp hairs before the age of 20 were included in the study. Children, below 10 years of age and patients who had associated systemic diseases were not included.

The patients under study were given oral 8-methoxy psoralen in a dose of 0.6 mg/kg body weight, on alternate days followed 2 hours

later by exposure to noon sun in a graded increasing exposure of 10-15 minutes. The patients were instructed to avoid other drugs, but they were allowed to continue applications of coconut oil or gingili oil on scalp daily before bath, which they were doing for many years previously. The patients were followed up once in a month to see the response to treatment.

Results

Out of 6480 patients (3040 males and 3440 females) seen by the author in the out-patient section within a period of 24 months, 44 were found to have premature greying. There were 28 females and 16 males. Their ages varied from 4 years to 20 years, mean age being 14.5 years. Majority (59.09%) of them belonged to the age group 10 to 15. Duration of premature greying of scalp hair in them varied from 15 months to 8 years. Twenty nine patients were in the habit of applying coconut oil on the scalp before bath while the rest were applying gingili oil. Twelve patients gave history of premature greying in one or more members in the family and 3 had family history of vitiligo. Systemic diseases noted in 5 patients included Warner's syndrome, hyperthyroidism and juvenile diabetes mellitus. Two patients had psoriasis and 4 had vitiligo.

Among 37 patients who received PUVASOL therapy for premature greying, 5 were lost to follow up. In 17 patients complete repigmentation of all the hairs occurred at the end of 13

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months and thereafter they were given maintenance PUVASOL therapy once a week only, for a further period of 6 months. Eight months follow up, after stopping the drug, did not show any relapse of greying. Seven patients showed only partial improvement (some hairs with repigmentation at the proximal portion only and others with only light brownish-black pigmentation in a diffuse or irregular pattern in the whole length of the hair shaft). In 8 patients there was no improvement at all even at the end of 12 months and so the therapy was discontinued in them. Three patients experienced mild gastro-intestinal symptoms in the initial period of treatment. In 2 patients with psoriasis, along with repigmentation of hairs, the scaly skin lesions also subsided. There was evidence of partial repigmentation of depigmented patches also in 3 out of 4 patients who had associated vitiligo.

Comments

The exact mechanism of premature greying is not well understood. It is associated with a number of disorders induced by organ specific antibodies. Premature greying is a feature in many diseases like hyperthyroidism, pernicious anemia, dystrophia myotonia, progeria, Werner's syndrome, Waardenberg syndrome, Rothmund-Thomson syndrome and Book's syndrome.⁴ The incidence of premature greying in the present study was 0.68%. Higher incidence observed in the female is probably due to the fact that they are more conscious about greying of their hair and seek early medical advice. Psoralen is contraindicated in young children⁵ and so two patients aged below 10 years were not included in this study. Since psoralen may further accelerate the aging process of the skin, PUVASOL therapy was not given to two patients with Werner's syndrome.

In the present study, 17 patients with premature greying, after PUVASOL therapy showed repigmentation of their scalp hairs at the end of 13 months. This repigmentation developed

gradually beginning from the proximal portion of the hair. The distal portion also get repigmented, first in a light brown colour but finally attained normal black colour of the hair. The exact mechanism how psoralen produced repigmentation of these grey hairs is not clear. Probably the same mechanism which operates in causing repigmentation of vitiliginous patches after PUVA, operates here also. Some believe that in vitiliginous individuals, greyness of hairs occurs at younger ages than in normal persons.⁶ Lerner believes that premature greyness represents a type of vitiligo.⁷ In one study, El Mofty observed that 37% of vitiligo subjects had premature greying of hairs and they were separate from any vitiligo macule.⁶ Calcium pantothenate has been reported to be effective in some cases of premature greying.^{8,9} Conversion of white hairs into black hairs even without any treatment is possible in some cases. But none of our patients noticed spontaneous complete repigmentation of all the affected hairs, before receiving PUVASOL therapy. According to Pasricha a 'converted hair' is a fool proof evidence that a hair follicle which was earlier producing a grey hair has now been induced to produce a pigmented hair.⁸ In his cases the junction between the newly forming black part of the hair and the old grey part was abrupt in all the hairs indicating a sudden recovery of pigment formation. But in the present study though some hairs showed such abrupt grey-black junction in the initial period, on continuation of treatment pigmentation extended to their distal portions also. The mechanism of such an extension of pigmentation from the proximal part of the hair to distal grey portion is not clear.

References

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