

MELANOSIS CAUSED BY HAIROILS

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This is a report of fortyfive cases of pigmentation caused by use of hair oils. Changes in pigmentation can arise in a number of ways and as a result of the variety of genetic and to a lesser extent environmental causes. (Rock, Text Book of Dermatology Vol. 2 P. P. 1119).

The various known causes of pigmentation are too numerous and varied to enumerate here. Most of them can be identified by typical patterns and further by general clinical and laboratory examinations.

For about two years prior to this study many patients with darkening of a distinctive pattern were seen. The distribution was, on the forehead, temples, postauricular regions, neck below the hair line and forearms and arms in some cases. The darkening was uniform, homogenous and faded at the margins away from the hair lines. The appearance was dull and lusterless and symptoms of burning were totally absent. Apparently, these patients were healthy and no systemic disease could be suspected. It was suspected that hairoils used by the patients could be responsible for the clinical picture, hence a regular study was undertaken.

Materials & Methods: All the patients who came for darkening of the above mentioned pattern were taken up for study. Complete clinical examination was made and recorded. Laboratory studies to exclude known causes of darkening were done.

Photographs were taken at intervals and skin biopsies were studied. Forty five patients were studied and table No. 1 gives the age and sex analysis.

TABLE NO. 1
Age And Sex Groups

Total No. of Cases: 45
Males: 24
Females: 21

age in years	males	females	Total
0 to 10	7	9	15
11 to 20	8	1	9
21 to 30	4	3	7
31 to 40	5	3	8
41 to 50	1	1	2
61 to 60	2	1	3

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It was found that all patients were using hairoils purchased loose, either from vendors or petty shops. None of the patients was using packed named hair oils. Twentyone of them observed that, darkening of the skin started after change of hair oil used previously. Samples of hair oils used by all the patients were obtained for analysis. None of the patients had any local itching, burning or any other symptoms or any constitutional disturbances. There was no mucous membrane involvement in any case.

Table No. 2 gives an analysis of investigations. No significant abnormality to explain the melanosis was found.

TABLE NO. 2

Investigations

<i>Blood Reports :</i>			
Average of Hb% -69.65%		Range of Hb%	
	maximum 82%		Minimum 50%
WBC Count Differential Count			Within Normal Limits.
No Malaria Parasite was seen in any smear.			
<i>Urine Examination :</i>	NAD		
<i>Stool Examination :</i>	(Positive Findings)		
<i>E. Histolytica</i>	<i>G. Lamblia</i>		<i>Ancylostoma</i>
8	2		1
<i>Screening Chest :</i>	NAD		
<i>Special Investigations :</i>		Uring for 17-Ketosteroidswithin Normal Range.	

When the same hairoil is used by family members it should cause darkening in all, the members therefore the family incidence was studied. Four families comprising of sixteen patients showed familial involvement.

Treatment : No active treatment except omission of the suspected, hairoil, was advised. They were advised to use cocojem of Tata or coconut oil of Swastic or Castoroil which would avoid any question of adulteration.

Patients were requested by letters to come for follow up. Twenty six patients responded. All of them were cured in three to five month's time (Refer photographs).

Skin Biopsy Reports : Section showed normal surface squamous epithelium. The basal layer showed increased melanin deposits. Dermis showed many melanophages. No evidence of lichen planus seen. No other abnormality was seen. Histology was distinctive from the known conditions. (Refer photographs).

Analysis of hair oil used by patients and some random samples obtained from vendors was carried out.

It was found on analysis that it contains many organic substances which may have caused darkening of the skin.

TABLE-3

Type Reactions	Hair oil samples	Probable substance
1. Organic acids	9	Salicylic acid citric acid, amino acids, gallic acids,
2. Tannis	2	—
3. Phenolic	2	Pyrogallol, resorcinol types.
4. Amines	2	Phenyl amine type
5. Flavonoid	3	Extracts of wood, leaves, flowers.
6. Fatty matters	2	Grease, animal fat etc.
7. Inorganic substances	2	Silvernitrate, lead acetate.

Out of the chemicals isolated in the analysis, the following are known to cause darkening

(1) Silver nitrate. (2) Phenylamines, (3) Gallic acid type compounds (4) Phenolic type compounds. The mechanism of their action is not understood, The available literature does not enlighten us on that point.

Silver nitrate and Gallic acid type compounds act as photosensitizers, but whether photosensitization has been responsible for darkening of the skin in the patients could not be ascertained.

Mineral oil was found in 62.5% of the samples on analysis. Literature does not mention mineral oils as darkening agents although it is known to cause follicular pathology.

The large percentage of hair oils containing mineral oils in our series suggests that they play a significant role.

DISCUSSION

A melanosis caused by hair oils is studied. The aetiological role of the hair oil was proved beyond doubt, as the pigmentation was reversible and disappeared on omission of the hair oils used. Why certain members of family using the same hair oil were not affected cannot be explained. There must be some predisposing factors.

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