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ORIGINAL ARTICLES

TREATMENT OF LEUCODERMAS AND VITILIGO WITH SOME INDIGENOUS DRUGS

(Review of 30 cases and clinical trial)

By

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The management of leucodermas and vitiligo is not satisfactory. A variety of commercially available cosmetic agents are some times used to cover the lesions on prominent areas. The application of furocoumarin (Psoralen) photosensitizers with simultaneous sunlight or ultraviolet irradiations has long been advocated. Further, more active photosensitizing oxypsoralens, like 8 methoxypsorelen have been isolated. Both local and systemic administration of agents coupled with repeated exposures to ultraviolet rays have been found useful in some cases (3, 4, 5, 9). But it does not work in many cases and even in those where it works, repigmentation is generally incomplete. Due to these drawbacks and because of its chronic toxicity, 8 methoxy-psorelen cannot be recommended as a satisfactory routine treatment of vitiligo (9). Thus an ideal remedy for the cure and relief of these diseases remains unknown.

A large number of drugs singly or in combination are in vogue in Indian system of medicine for the treatment of pigmentation disorders of skin. Many practitioners claim satisfactory results out of indigenous drug treatment in cases, of vitiligo and leucodermas but except few efforts (2) no scientifically controlled clinical trials have been so for done on such drugs.

The reports of beneficial effects of Psoralia corylifolia, a popular indigenous drug could draw the attention of workers in this field towards the potency of this group of drugs. In view of this fact a group of cases of vitiligo and leucoderma were kept on an indigenous drug regimen and the validity of this regimen was assessed scientifically which forms the subject matter of this papers.

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METHODS AND MATERIALS

Thirty patients of different age groups and of both the sexes suffering from vitiligo or leucoderma for different durations were registered in Ayurvedic research out patient department Sir Sunder Lal Hospital, Banaras Hindu University spontaneously when they came for treatment (Table I). A detailed clinical history and physical examination was done on each case and recorded in a specially formed case taking proforma. Routine laboratory investigatons of blood, urine and stool were done. In addition K. T./VDRL was also done. A clinical photograph to record the site and extent of the lesion was taken in each case as far as possible. The cases were diagnosed largely on clinical basis.

After completing the initial records the treatment was started. Each of these patients were prescribed *Gandhaka Rasayana* one gram daily orally in two divided doses and *Somaraji oil* for local application. All patients were treated in the out patient department except for few cases who were admitted in the ward for investigations only. These patients were provided medicines for fifteen days from the Hospital and they were instructed to attend the out patient department every fortnight. Some of these patients were not regular in attending the Hospital and some of them discontinued the treatment within a month time and did not turn up to report. Such patients were kept in a separate group and were taken as they did not continue the treatment. Those cases, who continued the treatment for more than a month, have been classified as cure or improved and unchanged.

'*Gandhaka Rasayana*' and '*Somaraji oil*' used in this enquiry were received from the Ayurvedic pharmacy, Banaras Hind University. *Gandhaka Rasayana* is a classical Ayurvedic combination consisting of purified sulphur impregnated with a variety of herbal juices. In *Somaraji oil,* one of the important constituents is Babchi (Psoralia corvlifolia)

RESULTS AND OBSERVATIONS

In all, there were thirty cases registered in the present series which consisted of variety of lesions (Table I Fig. I). We had quite a few cases where depigmentation was localised to the lip. Some of these cases developed depigmentation spontaneously *(vitiligo lip)* while in others the depigmentation was preceded by inflammatory changes over the lip *(Leucoderma lip)* which could be elicited in the history. Some of these cases were of shorter duration *(early)* but most of them were chronic cases.

There had been some cases where small depigmentary patches were seen on other parts of the body *(minor vitiligo).* In this group most of the cases were of shorter duration like few months to a year on so *(early).* In these cases the skin was soft and depigmented while the remaining cases were of longer standing like several years *(chronic),* and in these cases the skin was found to be rough and absolutely white.

The third group consisted of patients with bigger and multiple patches on different parts of the body *(extensive vitiligo).* In this group also we had two types of cases. The early cases had soft depigmentations with smooth skin, while the

chronic cases showed rough and absolutely white patches of skin. Quite a few of these vitiligo cases specially the early cases reported a *spreading* nature of the disease.

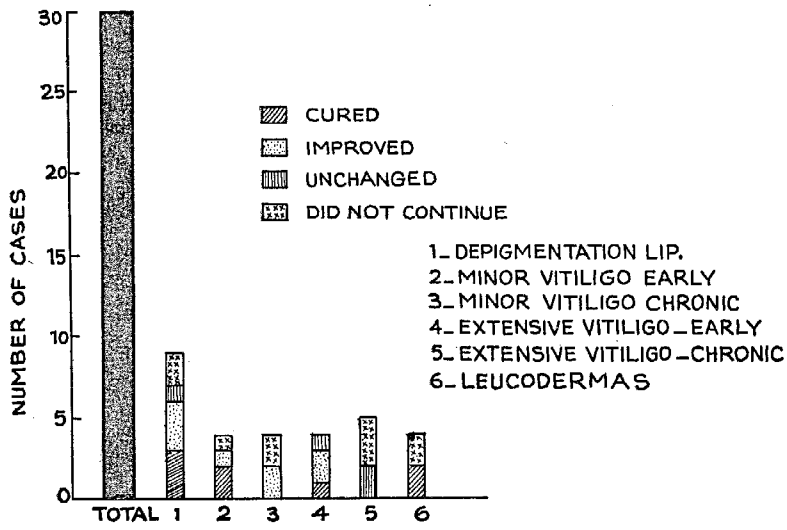

Fig. 1

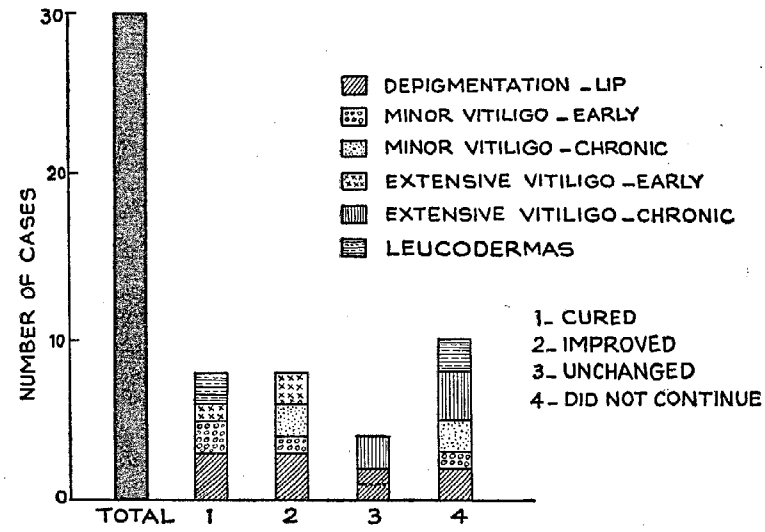

Fig. 2

Some of our cases reported that whenever and wherever they had any injury or scratch on the skin they developed depigmentation of that site which spread to cover some more area around it. We had only a few cases of leucoderma in the true sense. e. i. loss of pegmentation following inflammatory disorders of the skin. Except few most of these cases met us immediately after they noted the loss of of pigmentation i. e. just after the cure of the inflammatory lesions. No spreading tendency was observed in these cases.

TABLE I.

S. No.	Name	Age	Sex	Diagnosis	Duration of illness	Duration of treatment	Results.
1.	S. N. S.	20	M	Depigmentation lip	3 years	4½ months	Cured
2.	B.	40	F	–do–	–do–	4 months	unchanged
3.	A. K. S.	20	M	–do–	2 years	3 months	Improved
4.	S. H. T.	20	M	–do–	–do–	4 months	Cured.
5.	D. N. S.	22	M	–do–	7 months	3 months	Improved.
6.	K. P.	35	M	–do–	2 years	did not continue	
7.	P. D.	13	F	Spreading vitiligo	3 months	3 months	Improved
8.	V. D.	20	F	–do–	2 years	one year	cured
9.	G. S.	21	M	–do–	2 months	4½ months	unchanged
10.	B. S.	18	M	Depigmentation lip	3 years	4 months	Improved
11.	S. R.	6	M	Nutritional leucoderma	6 months	did not continue	
12.	N. D.	49	M	Depigmentation lip	1 year	10 months	cured
13.	A. D.	40	F	Leucoderma (Post–inflamatory)	1 week	8 months	cured
14.	V. J.	6	F	Minor vitiligo (early)	5 months	did not continue	
15.	P. L.	36	M	Extensive vitiligo (chronic)	3 years	2 months	unchanged
16.	R. N. M.	20	M	(post inflammatory)	1 month	3 months	cured
17.	P. V. N.	18	M	Leucoderma Depigmentation lip	2 years	did not continue	
18.	K. S.	26	F	Minor Vitiligo (chronic)	6 years	–do–	
19.	T. D.	30	M	Minor Vitiligo (early)	4 months	3 months	cured
20.	R.	4	M	Minor Vitiligo (chronic)	3½ years	6 months	Improved
21.	K. P.	30	M	Minor Vitiligo (early)	6 months	10 months	cured
22.	S. S.	17	M	Minor Vitiligo (chronic)	5 years	did not continue.	
23.	L. R.	55	M	Extensive vitiligo (chronic)	10 years	did not continue	
24.	D. K.	9	M	Minor vitiligo (early)	2 months	4 months	Improved
25.	S. N. S.	12	M	Leucoderma (Post Small Pox)	6 years	did not continue	
26.	S. D.	40	F	Extensive Vitiligo (chronic)	6 years	6 months	unchanged
27.	R. K. M.	22	M	Extensive Vitiligo (chronic)	7 years	did not continue	
28.	S. K.	9	F	Spreading Vitiligo	4 months	2 months	Improved
29.	S.	10	F	Minor vitiligo (congenital)	since birth	1 month	Improved
30.	D.	50	F	Extensive Vitilgo (chronic)	5 years	did not continue.	

In this series there was a child suffering from Kwashiorkor with depigmenation of skin which was concluded to be secondary to the *nutritional* disorder. Unfortunately this case did not continue our treatment. There was one case with a smali patch of depigmentation since birth *(congenital)*. In another case extensive depigmentation of both the legs was reported to develop after *small pox*..

In lip vitiligo cases, the lesion was generally seen extending to the inner aspect of the lower lip and the outer surface of the gums. They were not much of spreading nature and the lesions used to look pinkish in colour rather than usual white colour of leuoderma. In generalised vitiligo cases, sides of the waist, palm of the hands, the sole of the feet, the legs and the chest were the common sites. One case was registered for vitiligo of scrotum.

So far as the effect of treatment is concerned except in a few cases no change was noted in the lesions within the first month of the therapy. In favourable cases the beneficial effects of the treatment were noted respectively in four forms.

(1) Stoppage of spreading of the lesions,
(2) Change in the colour of the patch as a whole from white to reddish and so on.
(3) Appearance of innummerable small hyperpigmented spots in the depigmented patches, ultimately the whole area becoming pigmented by mixing up of those spots.
(4) Repigmentation from the margin of the patch.

First two types of effects were found in vitiligo cases while third type of effect was observed specially in leucoderma (Fig. 3: A. B. C.) While under treatment all

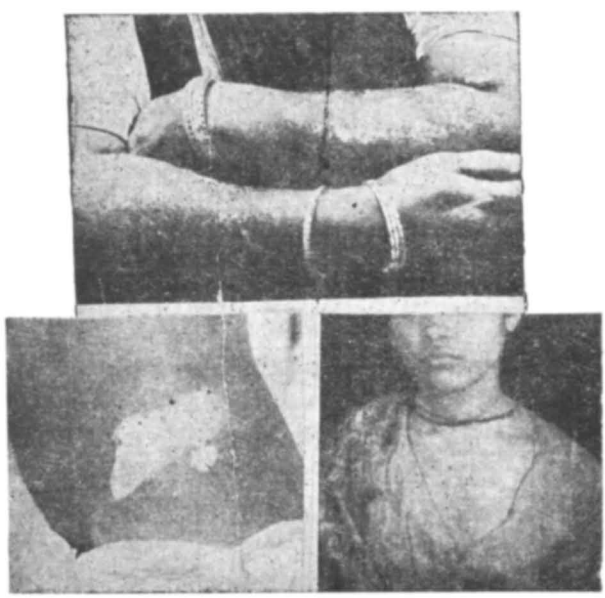

Fig. 3 A, B, C.

most all the cases stopped spreading their lesions. The changes in the colour or size of the existing iesion were observed only in a limited number of cases and a good number of cases remained unchanged. The most favourable cases, who were ultimately declared cured took six months to a year for complete pigmentation. On the whole, out of the total thirty cases eight could be cured, nine could be declared improved, four remained unchanged and remaining nine did not continue the treatment (Fig. 2, Table 2.).

TABLE 2

Sl. No.	Type of cases	Total No. of cases in % of the series	%cured	%Improved	@ %DNC	%Unchanged
1.	Depigmentation of Lip.	30.00	33.3	33.3	22.2	11.1
2.	Minor vitiligo (early)	13.33	50.0	25.0	25.0	Nil
3.	Minor vitiligo (chronic)	13.33	Nil	50.0	50 0	Nil
4.	Extensive vitiligo (early) (spreading)	13.33	25.0	50.0	Nil	25.0
5.	Extensive vitiligo (chronic)	16.66	Nil	Nil	60.0	40.0
6.	A Leucoderma (Post Inflammatory)	2.66	100.0	Nil	Nil	Nil
	B Nutritional Leucoderma	3.33	Nil	Nil	100	Nil
	C Post small Pox Leucoderma	3.33	Nil	Nil	100	Nil

@ Did not continue the treatment.

Looking at the type of cases responding to this treatment, lesions of the lip have been experienced to be difficult cases for treatment. Similarly minor or extensive vitiligos of longer standing, like more than three years, also did not respond to our treatment. The early cases of spreading vitiligo with smooth and softly depigmented skin, were amiable to this treatment, But the best results were recorded in cases of leucoderma Viz depigmentations occuring over the sites of inflammatory lesions and soon reporting us and treated.

DISCUSSION

Melanin pigment is responsible for the physiological colour of the skin. Melanin occurs in specialized cells of skin usually known as melanocytes. A copper containing enzyme 'tyrosinase' has been described in the cytoplasmic granules of melanocytes (1). This enzyme is held responsible for the oxidation of tyrosine to melanin. These melanocytes are found scattered as a network in the basal layer of the epidermis and the germinative epithelia of hairs. Destruction or hypofunction of this specialised system of cells results into depigmentation disorders of the skin (7,8) which are essentially benign cosmetic problems.

There may be a congenital absence of the ability of the skin to produce melanin resulting into a condition known as '*albinism*' which may be generalised or restricted to certain area. The actual defect in this condition is the absence of the enzyme tyrosinase in the affected area. The acquired loss of cutaneous pigmentation may occur as an apparently primary phenomenon as in *vitiligo* or it may occur secondary to some inflammatory reaction in which case the term *leucoderma* is used.

The basic pathology underlying these various conditions is of the similar nature but they differ in the degree and extent of disturbance of melanin physiology. In leucoderma the changes seem to be completely reversible. In vitiligo probably irreversible changes start and if not checked in early stages they cannot be reversed. This is why in the present investigations the leucoderma cases and the early vitiligo cases responded to the treatment given and rest of the cases did not.

Despite the tremendous progress in the knowledge of biochemistry and physiology of skin and skin disorders in general and of melanin pigmentation in particular (7, 10), there is still lack of regularly effective and safe methods to control the degree of melanisation of the skin. The Ayurvedic system of medicine describes this disease as "*Kilasa*" and mentions several remedies for the same. Many practitioners also claim good result. In view of this fact the present trial was instituted and quite a few cases ofcourse only early cases have shown response. The actual mode of action of these drugs is a matter of further enquiry. These drugs are to be studied in relation to the melanin pigment metabolism.

The content of Psoralia corylifolia in Somaraji oil may be an active agent in this durg, because Psoralia corylifolia has been reported to have some specific effects in melanin formation. But the actual mode of action of Somaraji oil and of Gandhaka Rasayana is yet to be studied. These drugs are of definite value in all cases of leucoderma and early cases of vitiligo.

SUMMARY

(1) Thirty cases of vitiligo and leucoderma have been investigated and treated with two indigenous drugs 'Somaraji Oil' and 'Gandhaka Rasayana'.

(2) All cases of leucoderma and early cases of vitiligo have good response to this treatment in terms of control of spreading, and repigmentation of the existing patches.

(3) Cases of longer standing remained unchanged. Cases of vitiligo of the lip also gave poor response.

(4) Study of the actual mode of action of these drugs and clinical trial in larger series of cases is suggested to note the actual role and more specific indications of this therapy.

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DESCRIPTION OF FIGURES AND TABLES

Fig. 1. Shows the number of cases in different groups.

Fig. 2. Shows the result of treatment in different types of cases.

Fig. 3. Shows the modes of repigmentation of depigmentation patches.

(A) A case of Leucodarma showing innumerable small hyper pigmented spots in the field of Leucoderma patch. These spots are mixing up and will ultimately lead to complete pigmentation of the area.

(B) A case of spreading vitiligo repigmentation has started from the margin of the patch.

(c) A case of spreading vitiligo the colour of the whole patch is turning pinkish from bright white.

Table 1. Shows the details of the cases registered in the present series.

Table 2. Shows the number of cases in different groups distributed under the heads results of treatment.

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