INTERNATIONAL RESEARCH JOURNAL OF PHARMACY
www.irjponline.com ISSN 2230 – 8407
Research Article

CLINICAL EVALUATION OF SELECTED COLOURING HERBALS IN SAVARNIKARAN

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Article Received on: 10/01/13 Revised on: 09/02/13 Approved for publication: 11/03/13

DOI: 10.7897/2230-8407.04322
IRJP is an official publication of Moksha Publishing House. Website: www.mokshaph.com

ABSTRACT
A Clinical study on "Clinical Evaluation of Selected Colouring Herbals in Savarnikaran" was carried out at shalya tantra dept. of M.A.Podar Hospital, Worli, Mumbai 18. The prime aim of the study is to make available an effective, alternative colouring cosmetic preparations which will be useful in post burn, post acne and post wound colour morbidity.Ayurvedic herbal drugs are abundant, easily available and cost effective but their use is not observed in all forms. The trial drug is prepared in powder-paste, oil and ointment form. Further the efficacy of the different preparation is also evaluated separately. Cosmetic aspect of ayurvedic surgery is neglected, here we attempt to bring this aspect in routine practice.Total number of 40 patients were studied in this clinical study.Observations were documented through specially designed clinical record form and relevant conclusions were drawn.
KEY WORDS: Savarnikaran, Vaikrutapaham Chikitsa, *Curcuma Longua, Santalum Album, Glycyrrhiza Glabra, Myristica Fragrans, Rubia Cordiofolia.*

INTRODUCTION

Ayurveda is dealing with all the aspects of life mainly of medicine.Shalya tantra is one of the prime branch dealing with all surgical problems. Aacharya sushruta is considered as the father of plastic surgery. The cosmetic aspect has dealt in ayurvedic surgery by two methods, one is surgical operative and another is by herbomineral medicine. No doubt this cosmetic strategy is described in respect of wound healing and wound sequllae but there is no bar to use these cosmetic preparations for normal healthy one to improve the personality.

According to sushruta, vrana is the subject matter of shalya tantra. Considering this he has described sixty measures for the management of different wounds. In respect of post sequale healed wound scar sushrutacharya has described the measures to minimize irradicate the ugly features to normalize the healed wound region.These are called "Vaikrutapaham" that means to remove the abnormality[1]. This vaikrutapaham chikitsa covers all the aspects of wound healing which are not dealt by modern surgery. The treatment of post-operative / traumatic wound morbidity is a unique characteristic feature of sushrta's wound management measures.

MATERIAL AND METHODS

Patients and Drug, this two are the important material part of this study.

Patients

The patients participate in this study are from outdoor and indoor department of shalya tantra department of M.A.Podar Hospital, Worli, Mumbai. An understanding was given to the patients about the study and a written consent is taken to participate in the study. The study is carried out on 40 patients compressing of both sex between the age of 15 to 60 years. These 40 patients are divided into 4 groups. The first group of 10 patients is treated with paste. The second group of 10 patients is treated with an application of oil. The third group of 10 patients is treated with an application of ointment. The fourth group is treated with standard, popular market preparation brand – "Klinoderm" This group is consideringas control group.

Criteria for selection

- Patients of both sex were selected
- The patients of outdoor and indoor departments were included in the study
- The patients between the age group of 15-60 years were selected
- The patients having post burn discoloration, post acne discoloration and post wound discoloration are preferably selected for the study.
- The patients having disorder of pigmentation like chloasma are also selected for the study.

Criteria for rejection

- The patients having skin diseases are not included in the study.
- The patients suffering from systemic diseases likeTuberculosis,AIDS,Diabetes Melitus are not included
- The patients having local diseases like varicose veins, leprosy are not included in this study.
- The patients having any congenital defect were also not included in this study
- The patients having known skin allergy were not included in this study.

Drug

The drug used in this study is consisting of five selected colouring herbs viz.

1. Haridra- *Curcuma longa*
2. Chandan – *Santalum album*
3. Yashtimadhu -*Glycyrrhiza glabra*
4. Jaiphal-*Myristica fragrans*
5. Manjishta -*Rubia cordiofolia*[2,3].

The trial drug is prepared in three forms, Powder – paste, Oil and Ointment[4]. All the preparations are prepared in the Ras-Shastra and Bhaishajya-Kalpana Departmental Laboretory under the guidance of the concerned as per textual[4]. The constituents of the drug are purchased in the purified form from local market. The authenticy is verified by the expert of pharmaceutical department.

Method

This clinical study was carried on total 40 patients.This clinical study being an open comparative study.

A specific clinical record form is used to record findings .In initial first visit the following points are recorded in the CRF as 1- Cause and duration of discoloration, 2- Size of discoloration, 3- Type of discoloration, 4 - Any other complaints like itching etc.

The consecutive observations are made on 1st, 2nd,3rd,4th,5th and 6th weeks to record the findings .Written consent was taken to participate in the trial from the patients.

The photographs were taken prior to application of the drug. The part for which the drug is to be applied is to be cleaned with water and the drug is applied twice in a day. The final photographs were taken after completion of six weeks of application to review the results.

Histopathological results with skin biopsy were studied and saw the results. Few laboratory tests of the trial drug were carried out to know the important aspects.

Observations

Observation of patients: Initially there were 45 patients participated in this clinical study.Out of these 45 patients 5 patients were dropped out as they were not kept the follow up.

General Observation

1. Sex: Out of the 40 patients of discoloration there were 70% male and 30% female patients.
2. Age: Out of the 40 patients, 72.5% belongs to 15-30 yrs. age group, 22.5% patients belongs to 31-45 yrs. age group, 5% patients belongs to 46-60 yrs. age group
3. Dietary Habit: Out of 40 patients, 22.5% patients were vegetarian and 77.5 % patients were mixed group.
4. Nature of skin: Out of 40 patients, 50 % patients have oily type skin, 32.5% patients have dry type skin, and 17.5 % patients have normal type skin. Table 1
5. Aetiological factors: Out of 40 patients 30% patients had discoloration due to bodily-neej cause and 70% patients had discoloration due to external agantuj cause. Table 2
6. Duration of discoloration: Out of 40 patients 60% patients had discoloration since 0 to 6 months. 20% patients had discoloration since 7 to 12 months. 2.5% patients had discoloration since 13 to 18 months. 12.5% patients had discoloration since 19 to 24 months. 2.5% patients had discoloration since 31 to 36 months and 2.5% patients had discoloration since 43 to 48 months. Table 3
7. Colour type of discoloration: Out of 40 patients, 15% patients had pink discoloration, 37.5% patients had dark pink discoloration, 25% patients had black discoloration, 7.5% patients had white discoloration, 7.5% patients had dark brown discoloration and 7.5% patients had red discoloration. Table 4
8. Site of discoloration: Out of 40 patients 30% patients had discoloration over face region, 2.5% patients had discoloration over chest region, 2.5% patients had discoloration over neck region, 2.5% patients had discoloration over abdomen, 20% patients had discoloration over upper limb, and 42.5% patients had discoloration over lower limb. Table 5
9. Size measurement of discoloration: Out of 40 patients 45%patients had discoloration of 1 to 5 cm, 27.5% patients had discoloration of 6 to 10 cm and 27.5% patients had discoloration of 11 to 15 cm.Table 6

Clinical Observation

In the first week no change in discoloration observed with the application of all forms of trial drug and control group. In the paste group 7 patients had shown colour changes in 3rdweek and 3 patients had shown colour changes in 4thweek. In oil group 3 patients had shown colour changes in 2ndweek and 7 patients had shown colour changes in 3rdweek. In ointment group 1 patient had shown colour changes in 2ndweek. 7 patients had shown colour changes in 3rdweek. No change in discoloration has observed in two patients till end of 6thweek. In control group 1 patient had shown colour changes in 3rdweek.4patients had shown colour changes in 4thweek.1 patient had shown colour changes in 5th week. No change in discoloration has observed in 4 patients till end of 6thweek.

Subjective Assessment

Fairness of the skin being a subjective feature and due to this it was difficult to fix the gradations of change in colour.The individual normal colouration was considered standard-natural, and this was taken as the base line. Table 7

Observation of the drug

Action of trial drug on the basis of Rasa:In this trial drug out of six rasa, 3 drugs having Madhura Rasa, 2 drugs having Katu Rasa, 4 drugs having Tikta Rasa and 2 drugs having Kashaya Rasa, Madhura rasa promotes sapta dhatu and ojas, pleasing to sense organs,promotes strength and lusture, alleviates pitta and is beneficial for skin. Katu Rasa makes the sense organs clear and destroys itching, depress wound and kills organisum. Tikta Rasa alleviates itching, burning sensation and provides firmness to skin.

Action of trial drug on the basis of Guna: The trial drug contains five components. Out of which 2 drugs posseses guru and snigdha guna.3 drugs posseses laghu and ruksha guna and 1 drug posseses tikshana guna. Guru guna promotes plumpness, compactness, moistness and softness and improves the complexion.Snigdha Guna has main properties of balya, vatahar and varnakar.

Action of trial drug on the basis of Veerya: The trial drug carried ushna veerya in maximum i.e. (60%). The drug having ushna veerya possess Tej Mahabhuta and Tej Mahabhuta is responsible for the normal colour of the skin and it improves the complexion of skin. The drug carried sheeta veerya in proportion of (40%). Sheeta veerya is same what against ushna veerya, even though it is useful in compound drug to balance the side effects.

Table 1: Nature of the skin

SN	Nature of the skin	No.of pts. in oil group	No.of pts. in ointment group	No.of pts. in paste group	No.of pts. in control group	Total no of patients studied	%
1	Oily	4	4	9	3	20	50%
2	Dry	4	5	1	3	13	32.5%
3	Normal	2	1	0	4	7	17.5%
Total		10	10	10	10	40	100%

Table 2: Aetiological Factors

SN	Aetiological factor	No.of pts. in oil group	No.of pts. in ointment group	No.of pts. in paste group	No.of pts. in control group	Total no of patients studied	%
1	Neej	0	1	9	2	12	30%
2	Agantuj	10	9	1	8	28	70%
Total		10	10	10	10	40	100%

Table 3: Duration of discoloration

SN	Duration of discoloration	No.of pts. in oil group	No.of pts. in ointment group	No.of pts. in paste group	No.of pts. in control group	Total no of patients studied	%
1	0 to 6 months	7	7	3	7	24	60%
2	7 to12 months	3	2	1	2	8	20%
3	13 to 18 months	0	0	1	0	1	2.5%
4	19 to 24 months	0	0	4	1	5	12.5%
5	25 to 30 months	0	0	0	0	0	0%
6	31 to 36 months	0	0	1	0	1	2.5%
7	37 to 42 months	0	0	0	0	0	0%
8	43 to 48 months	0	1	0	0	1	2.5%
Total		10	10	10	10	40	100%

Table 4: Colour type of discoloration

SN	Colour type of discoloration	No.of pts. in oil group	No.of pts. in ointment group	No.of pts. in paste group	No.of pts. in control group	Total no of patients studied	%
1	Pink	2	1	0	3	6	15%
2	Dark Pink	6	5	1	3	15	37.5%
3	Black	2	1	4	3	10	25%
4	White	0	2	0	1	3	7.5%
5	Dark Brown	0	0	3	0	3	7.5%
6	Red	0	1	2	0	3	7.5%
Total		10	10	10	10	40	100%

Table 5: Site of discoloration

SN	Site of discoloration	No.of pts. in oil group	No.of pts. in ointment group	No.of pts. in paste group	No.of pts. in control group	Total no of patients studied	%
1	Face	0	1	9	2	12	30%
2	Chest	1	0	0	0	1	2.5%
3	Neck	1	0	0	0	1	2.5%
4	Abdomen	1	0	0	0	1	2.5%
5	Upper Limb	0	4	0	4	8	20%
6	Lower Limb	7	5	1	4	17	42.5%
Total		10	10	10	10	40	100%

Table 6: Size measurement of discoloration

SN	Measurement of discoloration	No.of pts. in oil group	No.of pts. in ointment group	No.of pts. in paste group	No.of pts. in control group	Total no of patients studied	%
1	1 to 5 cm	6	4	5	3	18	45%
2	6 to 10 cm	1	3	4	3	11	27.5%
3	11 to 15 cm	3	3	1	4	11	27.5%
Total		10	10	10	10	40	100%

Table 7: Statistical analysis of changes in measurement

SN	Group	Mean	SD	SE	t	p
1	Oil	3.35	+ 3.25	1.02	3.28	$P < 0.01$
2	Ointment	3.95	+ 4.29	1.35	2.12	$P < 0.02$
3	Paste	2.81	+ 2.07	0.65	4.32	$P < 0.001$
4	Control	7.05	+ 4.62	1.46	4.82	$P < 0.001$

RESULTS

On perusal of all clinical observations, laboratory studies and statistical results of the study we can draw the following results and conclusions.

- The studied drug is potent in colouring and complexion enhancing of body skin.
- The studied drug is devoid of any significant toxic reaction except mild itching lasting for few minutes.
- The application of studied drug in oil form has shown mild itching on application over post burn area. This may be due to altered local skin structure.
- The Histopathological study shows that the studied drug is having body colour complexion normalization action.
- The antimicrobial study of the said drug has shown effectiveness against *S.aureus* and *P.aeruginosa*.
- The studied drug used in paste, oil and ointment forms reveals that paste is more effective as it's "P" value is 0.001, next comes oil as it's P value is 0.01 and last ointment as it's P value is 0.02. In paste form direct drug is in contact with the skin. In oil form some constituents of the drug present in the oil are acted on the skin and the ointment form is also acted in the same way like oil. This action potential differentiation is due to the parts of active

ingredients present in the three different forms of the drug.

- The interesting aspect of the study reveals that the results are duration dependant i.e. less duration is having earlier results and in chronic cases results are delayed.
- The another aspect is that on oily skin, paste application is found more effective and on dry skin application of oil is more effective.
- The studied drug is cost effective.
- The ingredients of the studied drug are easily available and the drug can be prepared in any form at home. The procedure is simple and can be widely accepted.
- The further deep study is essential to know the other aspects of the drug

DISCUSSION

The resulted drug action is due to many factors, such as natural colour present in the ingredients,essential oils and rasa, guna,veerya and vipaka and prabhav of the trial drug.The trial drug acted synergetically.All the ingredients are having colouring, aromatic and potential action on the capilleries helping in clearing the metabolites-toxines from the skin.

Curcuma Longa is a proved anti-inflammatory, antimicrobial, hypolipidemic, antitoxic and colouring agent. According to ayurvedic concept Haridra is considered as enhancing drug for colouring component of the skin.

Glycyrrhiza Glabra is known natural source for steroids and this is one of the reason for its anti -inflammatory, sooting and detoxifing properties.

Myristica Fragrans application locally is having haemodynamic action by increasing local capillary flow.It metabolises extra seabum which is one of the important factor in local microbial infection. *Myristica Fragrans* prevents these phenomena. Moreover nutmeg is having an essential oil which is yellowish in colour and which helps in colouring the tissue.

Rubia Cordifolia is rich in orange-reddish colouring matter. It is proved analgesic, colouring and complexion enhancing drug. According to Ayurveda it is considered blood purifying and detoxifing agent.

Santalum Album is very well known aromatic and complexion enhancing drug.It's sooting action is locally as well as mentally proved.

Considering all above constitutional action potential it is an established fact that the study drug has acted synergetically in colouring and complexion enhancing process.

ACKNOWLEDGEMENTS

With deep sense of gratitude I wish to express my hearty thanks to my revered and learned guide Dr.G S Lavekar, all respected teachers & staff of shalya tantra department, Dr.Sanjay Navani of Breach Candy Hospital, Prof. N V Bhatt of UDCT for their untiring help, constant encouragement and critical suggestions. This acknowledgement would remain incomplete if I don't mention my sincere thanks to all my patients who volunteered themselves to be the subject of this study.

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Cite this article as:

Wadikar Sujata Surendra, Reddy Govind R. Clinical evaluation of selected colouring herbals in Savarnikaran. Int. Res. J. Pharm. 2013; 4(3):121-124

Source of support: Nil, Conflict of interest: None Declared