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EFFECT OF CHANDANA MRINALA LEPA IN THE MANAGEMENT OF KIKKISA W S R TO STRIAE GRAVIDARUM- A CLINICAL STUDY

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ABSTRACT

Pregnancy is associated with many physiological and physical changes, striae gravidarum (stretch marks) is one among them, which mostly appear in the 7th month. This disease entity in *Ayurveda* is explained as *Kikkisa*, which is characterized by *Kandu*, *Vidaha*, *Vaivarnyata, Rukshata* and *Rekha swaroopa twak sankocha* (linear striae) caused by vitiation of *tridoshas*. For effective management of *Kikkisa*, *Chandana Mrinala Lepa* has been selected for the present study. **Objectives:** To evaluate the efficacy of *Chandana Mrinala Lepa* in the management of *Kikkisa* w.s.r. to striae gravidarum. **Materials & Methods:** A total of 20 patients who fulfilled the inclusion criteria were selected & were administered *Chandana mrinala lepa* for a period of 45days respectively. They were followed up every 15days for 75days. The *lakshanas* of *Kikkisa* were observed, recorded and assessed. **Results**: Comparing all parameters within the Group, before treatment to During treatment1, before treatment to During treatment2, before treatment to After treatment, At Follow up 1 & At Follow up 2, the p value (<0.001) revealed statistically Highly Significant.

Keywords: *Kikkisa:* Striae Gravidarum: *Chandana Mrinala Lepa*

INTRODUCTION

Beauty is a subject of socio-medical importance. Skin is considered as the mirror of human body as it reflects the physical**,** mental and emotional status of every person. Any derangement in the external appearance of the skin becomes worrisome to a lady as it hampers her appearance and self confidence. Pregnancy presents with profound changes in almost all the systems of the body. Skin, being one among them, becomes a cosmetic concern to the pregnant lady when changes associated with it remain even after her little one is born. One such clinical entity associated with pregnancy is *Kikkisa*. This condition presents with symptoms like *kandu, vidaha, vaivarnyata* and *twak sankocha* etc on the skin. The *twak sankocha*, thus developed, remains for the rest of her life which could be a potential reason to worry for the woman. Other symptoms like *kandu*, *vidaha* etc may affect her daily routine activities during pregnancy, based on their severity of manifestation. The contemporary science equates this condition to the linear, depressed, atrophic, pinkish or purplish, scar like lesions called Striae gravidarum, which

appear at the end of mid 2nd trimester of pregnancy. Though the scars may lighten after many years, complete disappearance is seldom observed. Hence it becomes important to manage this condition during pregnancy. There are several methods available today for managing stretch marks which involve even invasive procedures like laser surgeries, dermabrasions, tummy tuck etc. As these treatments are expensive and invasive, scope for conservative management is huge and need of the hour.

Considering the above quoted factors, this study has been selected which is entitled, 'Effect of *Chandana Mrinala lepa* in the management of *kikkisa* w s r to Striae gravidarum- A Clinical study'. *Acharyas* have explained *Kikkisa* and its management in detail in the classics. Many formulations which can be applied externally are mentioned, among which *Chandana*[1] *Mrinala*[2] *lepa* is selected for the study.

METHODOLOGY: The present study was carried out on 20 patients attending OPD and IPD of Prasooti Tantra Evam Stree Roga Department, SKAMCH & RC Bangalore.

OBJECTIVE OF THE STUDY: To evaluate the efficacy of *Chandana Mrinala Lepa* in the management of *Kikkisa* w.s.r to striae gravidarum.

SOURCE OF DATA: 20 patients with clinical features of Kikkisa w.s.r. to Striae gravidarum coming under the inclusion criteria approaching the OPD and IPD of Prasooti Tantra Evam Stree Roga Department, SKAMCH & RC, Bangalore was selected for the study, the sample collection was initiated post approval, from the Institutional Ethical Committee.

SAMPLING TECHNIQUE: The subjects who fulfill the inclusion and exclusion criteria and complying with the informed consent (IC) were selected for the study.

METHOD OF COLLECTION OF DATA:

- 20 Patients diagnosed as Kikkisa w s r to Striae gravidarum were selected for this study.
- A case proforma containing all the necessary details pertaining to the study was prepared
- The data obtained in both groups was recorded, tabulated and statistically analysed using suitable statistical methods.

DIAGNOSTIC CRITERIA: Patients with the *lakshanas* of *Kikkisa* / Striae gravidarum.

INCLUSION CRITERIA

- Age group of patients in between 18 to 35 years.
- Primi gravida with *lakshanas* of *Kikkisa*
- Primi gravida in 3rd trimester.

EXCLUSION CRITERIA

- Pre-existing skin disease which interferes with the treatment.
- Pregnancy with associated complications.
- Any previous surgical scar on the abdomen.
- Any systemic disease interfering with course of treatment.

INTERVENTION

A clinical study with pre test and post test was conducted on 20 selected patients.

- *Chandana Mrinala* with *navneeta* was applied on the abdomen for a period of 45days.
- Duration of application- 15-20 minutes.
- Applied once in the morning after bath for 45days.

TOTAL DURATION OF THE STUDY

- Total duration of study- 75 days
- Before treatment - 1st day
- During treatment 1 - 16th day
- During treatment 2 - 31th day
- After treatment - 46th day
- Follow up 1 - 60th day
- Follow up 2 - 75th day

METHOD OF PREPARATION OF MEDICAMENTS REQUIRED FOR THE STUDY

The raw drug *Chandana* was collected crushed and was finely powdered. The wet drug *Mrinala* was made it to dry completely and it was finely powdered using a pulverizor. Then both the preparations were mixed together to form a homogenous mixture and 10gms of *churna* was packed in each sachet.10gms of *lepa churna* were advised to be mixed with the *navaneeta* (q.s) as *alepa.* It was applied in

pratiloma gati in early morning approximately for 15-20 minutes. Patients were advised to remove the *lepa* before it completely dries.

ASSESSMENT CRITERIA

Table 1: Assessment Criteria and Scoring Pattern

SL.NO	Assessment criteria	Scoring pattern	
1.	*Kandu*	Present	Absent
2.	*Vidaha*	Present	Absent
3.	*Rukshata*	Present	Absent
4.	*Vaivarnyata*	Present	Absent

CLASSIFICATION OF STRIAE BASED ON CLINICAL APPEARENCE: (*M A Adatto & P Deprez)*

Table 2: Showing classification of striae based on clinical appearance

Fresh, inflammatory usually livid striae	1
White, superficial striae without laddering and without palpable depression at the surface of the skin.	2
White, superficial striae without laddering but with palpable depression at the surface of the skin.	3
White, atrophic striae with laddering measuring less than 1 cm width, without deep pearliness.	4
White, atrophic striae with laddering measuring less than 1 cm width, with deep pearliness.	5
White, atrophic striae with laddering measuring more than 1 cm width, with or without deep pearliness.	6

OBSERVATIONS

In the present study it is observed that maximum of 11 patients were in the age group of 18-23years, maximum of 12 patients were Hindu's, 7 patients studied up to higher secondary, 15 patients were home- makers, all 20 patients from urban area, all 20 patients had mixed diet, 11 patients were from lower middle class, maximum 13 patients belonged to *Pitta Kapha prakruti,* all 20 patients had *Kandu, Vaivarnyata & Rekha swaroopa twak sankocha* & 15 patients had *Vidaha,* 14 patients had *Rukshata* as chief complaint**.**

RESULTS

Table 3: Effect of treatment on *Kandu* as observed within the groups

Before Treatment – During Treatment 1					
Phase	Present	Absent	X^2 Value	P-Value	Remarks
Bt	20	0	7.05	<0.01	Hs
Dt1	14	6			
Before Treatment – During Treatment 2					
Phase	Present	Absent	X^2 Value	P-Value	Remarks
Bt	20	0	17.14	<0.001	Hs
Dt2	8	12			
Before Treatment – After Treatment					
Phase	Present	Absent	X^2 Value	P-Value	Remarks
Bt	20	0	32.72	<0.001	Hs
At	2	18			
Before Treatment – At Follow Up 1					
Phase	Present	Absent	X^2 Value	P-Value	Remarks
Bt	20	0	36.18	<0.001	Hs

Af1	1	19			
Before Treatment – At Follow Up 2					
Phase	Present	Absent	X^2 Value	P-Value	Remarks
Bt	20	0	40	<0.001	Hs
Af2	0	20			

In *Kandu*, before treatment to during treatment1, before treatment to during treatment2, before treatment to after treatment, before treatment to follow up 1 and before treatment to follow up 2, the p value (< 0.001) revealed statistically highly significant.

Table4: Effect of treatment on *Vidaha* as observed within the groups

Before Treatment – During Treatment 1					
Phase	Present	Absent	X^2 Value	P-Value	Remarks
Bt	15	5	1.02	>0.05	Ns
Dt1	12	8			
Before Treatment – During Treatment 2					
Phase	Present	Absent	X^2 Value	P-Value	Remarks
Bt	15	5	3.75	>0.05	Ns
Dt2	9	11			
Before Treatment – After Treatment					
Phase	Present	Absent	X^2 Value	P-Value	Remarks
Bt	15	5	12.12	<0.001	Hs
At	4	16			
Before Treatment – At Follow Up 1					
Phase	Present	Absent	X^2 Value	P-Value	Remarks
Bt	15	5	17.28	<0.001	Hs
Af1	2	18			
Before Treatment – At Follow Up 2					
Phase	Present	Absent	X^2 Value	P-Value	Remarks
Bt	15	5	24	<0.001	Hs
Af2	0	20			

In *Vidaha*, before treatment to during treatment1, before treatment to during treatment2, the p value (> 0.05) revealed statistically non significant & before treatment to after treatment, before treatment to follow up 1 and before treatment to follow up 2, the p value (< 0.001) revealed statistically highly significant.

Table 5: Effect of treatment on *Rukshata* as observed within the groups

Before Treatment – During Treatment 1					
Phase	Present	Absent	X^2 Value	P-Value	Remarks
Bt	14	6	0.96	>0.05	Ns
Dt1	11	9			
Before Treatment – During Treatment 2					
Phase	Present	Absent	X^2 Value	P-Value	Remarks
Bt	14	6	3.63	>0.05	Ns

Dt2	8	12			
Before Treatment – After Treatment					
Phase	Present	Absent	X^2 Value	P-Value	Remarks
Bt	14	6	8.1	<0.01	Hs
At	5	15			
Before Treatment – At Follow Up 1					
Phase	Present	Absent	X^2 Value	P-Value	Remarks
Bt	14	6	15	<0.001	Hs
Af1	2	18			
Before Treatment – At Follow Up 2					
Phase	Present	Absent	X^2 Value	P-Value	Remarks
Bt	14	6	21.52	<0.001	Hs
Af2	0	20			

In *Rukshata*, before treatment to during treatment 1, before treatment to during treatment 2, the p value (>0.05) was statistically non significant, before treatment to after treatment, the p value (<0.01) was statistically highly significant, before treatment to follow up 1 and before treatment to follow up 2, the p value (<0.001) was statistically highly significant.

Table 6: Effect of treatment on *Vaivarnyata* as observed within the groups

Before Treatment – During Treatment 1					
Phase	Present	Absent	X^2 Value	P-Value	Remarks
Bt	20	0	4.44	<0.05	S
Dt 1	16	4			
Before Treatment – During Treatment 2					
Phase	Present	Absent	X^2 Value	P-Value	Remarks
Bt	20	0	10	<0.01	Hs
Dt2	12	8			
Before Treatment – After Treatment					
Phase	Present	Absent	X^2 Value	P-Value	Remarks
Bt	20	0	17.14	<0.001	Hs
At	8	12			
Before Treatment – At Follow Up 1					
Phase	Present	Absent	X^2 Value	P-Value	Remarks
Bt	20	0	26.66	<0.001	Hs
Af1	4	16			
Before Treatment – At Follow Up 2					
Phase	Present	Absent	X^2 Value	P-Value	Remarks
Bt	20	0	26.66	<0.001	Hs
Af2	4	16			

In *Vaivarnyata*, Before treatment to during treatment 1, the p value (<0.05) was statistically significant, before treatment to during treatment 2, the p value (<0.01) was statistically highly significant, before treatment to after treatment, before treatment to follow up1 and before treatment to follow up 2, the p value (<0.001) was statistically highly significant.

Table 7: Effect of treatment on *Rekha Swaroopa Twak Sankocha* as observed within the groups

Group A						
Parameter	Mean	S.D.	S.E.	t value	p value	Remark
BT-DT1	1.47	0.76	0.17	8.66	<0.001	HS
BT-DT2	1.84	0.81	0.18	10.13	<0.001	HS
BT-AT	2.36	0.87	0.19	12.10	<0.001	HS
BT-AF1	2.89	0.91	0.20	14.19	<0.001	HS
BT-AF2	3.05	0.88	0.19	15.38	<0.001	HS
Group B						
Parameter	Mean	S.D.	S.E.	t value	p value	Remark
BT-DT1	1.15	0.69	0.15	7.44	<0.001	HS
BT-DT2	1.26	0.73	0.16	7.70	<0.001	HS
BT-AT	1.36	0.75	0.16	8.11	<0.001	HS
BT-AF1	2.63	1.03	0.23	11.41	<0.001	HS
BT-AF2	3.15	1.05	0.23	13.36	<0.001	HS

In *Rekha swaroopa twak sankocha*, before treatment to during treatment 1, before treatment to during treatment 2, before treatment to after treatment, before treatment to follow up 1 and before treatment to follow up 2, the p value (<0.001) was statistically highly significant.

DISCUSSION

The disease *Kikkisa* is very common among the women of reproductive age group. Almost more than 90% women suffer from this ailment. *Kikkisa* can be considered as a multifactorial condition where mechanical stretching due to sudden growth of the fetus (*garbhotpeedana*) is not the only cause. Further in the *samprapti* of *kikkisa,* it is mentioned that due to *garbhotpeedana*, the *vata pitta kapha doshas* reach the *uras*[3] */ hrudaya*[4] causing *vidaha* and *kandu* in the *garbhini* which then leads to *twak sankocha*. When the *acharyas* say that the *tridosas* reach *uras*, there is only *dosha vriddhi* due to the *garbhotpeedana* by which the *doshas* are dislodged from *swasthana*, but may not undergo *prakopa*.

In the present study, *bahirparimarjana chikitsa* was administered in the form of *lepa* on the *twak.* In our classics, it is explained that the absorption of the medicine happens through the *tiryak gata siras* present in the *twak* which carry the *virya* of the *dravya* to the deeper layers[5]. Along with this *bhrajaka pitta* play an important role in executing the action of the medicine by doing the *pachana* of the *aushadhi*[6]. *Raktachandana* and *mrinala* were applied as *lepa* along with *navaneeta, which has Madhura rasa, sheeta virya, laghu, snigdha guna ,katu vipaka & kapha pitta hara, twak dosha hara, varnya & kantipradam properties of the drugs were beneficial in treating the condition.*

Madhura rasa - Which acts as *Vatapittahara* and *Snighdtwa* in it maintains elastisity of the skin & helps in regeneration. Also having *Dahaprashamana* and *Sandhanakara* properties[7].

Laghu guna - Helps in easy penetration of the drug giving its desired effect. It acts as *Kaphahara* and *Sroto shodhana*.

Snighda guna -Helps in lubricating, and also is *Vatahara, Varnya* and *Twakdoshahara.*

Sheeta virya - Acts as *Pittahara* and *Kledakara*.

Katu vipaka - Acts as *Kaphahara*.

Karma - Twachya, Varnya, Krimighna, Vranaropana.

Table8: Pharmacodynamics of *Chandana mrinala lepa*

	Rasa	*Guna*	*Virya*	*Vipaka*	*Karma*
Rakta Chandana	*Tikta, Madhura*	*Guru, Ruksha*	*Sheeta*	*Katu*	*Kapha Pitta hara, dahahrt, raktapittahara, varnya*
Mrinala	*Tikta, Madhura*	*Laghu, Ruksha*	*Sheeta*	*Katu*	*Kapha Pitta hara , twak dosha hara*
Navaneeta	*Madhura*	*Snigdha*	*Sheeta*	*Madhura*	*vatapittaharam, raktapittanut, varnabalavaham, kanthipradam*

Chandana is considered as an aromatic substance which is utilized for external application along with other herbs in the *Vedic literature*. *Chandana Mani dharana* (Crystal of sandalwood) was considered to be *varscasya* (improves complexion) and *Ayusya* (provides longevity). Generally *Rakta Chandana* is used for *Kashaya* and *Lepas*.

- *Rakta chandana* is one of the well known drug for its *twachya, varnya* property. The *sheeta virya* of the drug makes it a potent *dahaprashamaka* and *pitta shamaka.* The *kapha pitta hara karma* enables to reduce *kandu* in the patient effectively[8].
- *Mrinala,* also possess *sheeta virya, dahahara* property and is effective in skin diseases. The *tikta rasa* present in both the drugs has an added effect on the management of symptoms like *kandu* and *daha*[9].
- *Navaneeta* has *sheeta virya* and *snigdha guna* with *madhura rasa* which makes it a good *rasavardhaka.* This karma helps in maintaining the health of the *twak*[10]. One of the *karmas* of *navaneeta* is *varnabalavaham, kanthipradam* and *soukumaryakrt* which are required in treating this clinical entity effectively because *vaivarnyata* is one of the symptoms seen in *kikkisa.* More importantly, the *snigdha guna* of the *navaneeta* has its effect on *rukshata, vidaha* and *charma vidarana* which are due to *vataprakopa*. The *doshagnata* also supports the fact that it is *vata pitta shamaka*[11].
- Butter is rich in vitamins like Vit A, D and E. These are the vitamins rich in antioxidants which are fat soluble which keep the skin healthy when applied externally or when taken internally. Our classics give the reference of oral intake of *navaneeta* treated with the drugs of *madhuragana* in the dose of *Panitala matra*[12].

CONCLUSION

Reproduction is an important part of the life of female. Some physiological, hormonal and metabolic changes occur in mother's body to accommodate and support the fetus throughout pregnancy. *Kikkisa* is a common disorder which appears on the abdomen during seventh month of pregnancy i.e. due to vitiation of *tridosha* due to the growing fetus which displaces *vata*, *pitta* and *kapha* upwards, these *doshas* reaching *uras/hrdaya* produces *Kandu, Vidaha* and *Rekha swaroopa twak sankocha*. From result it can be concluded that all patients has showed highly significant results in all the parameters i.e*, Kandu, Vidaha, Rukshata, Vaivarnyata & Rekha swaroopa twak sankocha*. In the present study, no complications or adverse effects of the drugs were observed in the mother or the baby. The treatment was accepted by all patients. Hence, *Chandana mrinala lepa* with *navaneeta* is cost effective, user friendly drug which probably has a better effect when used in the early months of pregnancy and continued till delivery.

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