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A COMPARATIVE CLINICAL STUDY TO EVALUATE THE EFFICACY OF JEERAKADI LEPA AND MUKHAKANTIKARA LEPA IN THE MANAGEMENT OF VYANGA(MELASMA)

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ABSTRACT

Vyanga is one of the important diseases pertaining to hyper Pigmentation disorders. It is considered *Kshudrarogas*, which occurs mainly due to vitiation of *Vata*, *Pitta* and *Rakta*. *Vyanga* presence of *Neeruja*, *Tanu*, *Shyavavarnayukta mandala* on *Mukhapradesha*. Melasma is a hyperpigmented macular lesion that develops slowly and symmetrically over the malar area, bridge of the nose, forehead and upper lips, more commonly seen in females than males. Hyperpigmentation is due to increased melanocytes activity in epidermal and dermal layers. *Brhajaka pitta* is mainly related to *Varna* of *twacha*. So, *Pitta* is the main culprit to cause *Vyanga*. Here, all Jeerakadi Lepa's and Mukhakantikara Lepa's ingredients are *Pittashamaka*, *Varnyakara*, *Raktaprasadaka*, *Twakprasadaka*, *Kandughna*, *Kusthaghna*. **Methods:** A Randomized comparative clinical trial is adopted. In Group A were given *Jeerakadi lepa* with milk for 30 days application (once in a day).In Group B were given *Mukhakantikara lepa* with water for 30 days application (once in a day) .Total duration of study was carried out for 45 days. **Results:** By applying the Friedman test and Wilcoxon sign rank test for within the group it was statistically significant. The

Mann Whitney U test is applied between the groups the results showed statistically not significant. Hence, we conclude that we

reject null hypothesis H_0 and accept the alternate hypothesis H_2. i.e H_2 : *Jeerakadi lepa* is more effective than *Mukhakantikara lepa* in the management of *Vyanga*.

Keywords: *Vyanga*, Melasma, *Mukhakantikara lepa, Jeerakadi lepa.*

INTRODUCTION

The face is the index of the "mind". Beauty and personality are becoming increasingly important in today's competitive world. A clean and clear face is essential to the individual's personal, emotional and social well-being.

In modern science, Melasma is a pigmentary skin condition that causes brown to grey-brown patches on the face. Melasma affects 20-30% of women aged between 40 and 65 in India. It affects 90% of females and 10% of males of all ethnic and racial backgrounds [1]. It is uncommon before puberty and more prevalent throughout the reproductive years. Melasma is more common in darker skin tones than lighter skin tones and is especially prevalent in golden brown skin tones. The modern therapy consists of an external use of cream comprising Hydroquinone and Hydrocortisone, which has been proven to be sensitive in a few individuals; these treatment techniques are employed often and for an extended period, putting a financial and social impact on the patient[2]. Skin disorders are considered under *Kustha* and *Kshudra Roga* in Ayurveda. *Vyanga* is one among the *Khsudra Rogas*[3]. *Vyanga* is a pathological facial skin condition caused by the progressive degeneration of Vata, Pitta and Rakta, resulting in cardinal characteristics such as *Niruja, Tanu, and Shyava Mandala*[4]. *Vyanga* was clinically associated with melasma in this research. Drugs having *Kusthaghna, Kandughna, Raktaprasadaka, Twakprasadaka, and Varnyakara properties are helpful in the* management of *Vyanga.* In Ayurveda, skin is a route of administration of drugs, considered equally important as the other routes of administration. The *Lepa* helps remove the doshas locally and provides a standard colour. The *Lepa, which is applied on the face, gives strength to the muscles of the cheeks; it enhances face complexion,* which in turn cures the *Vyanga*. So *Alepa* was selected to manage *Vyanga* to make the treatment simple, effective and convenient for the patient. *Alepa* is mentioned under Kashyapacharya, and for correcting, Bhrajaka Pitta, located in the skin, absorbs the drug into the body through the skin.

Hence, the present study was undertaken to evaluate the efficacy of a comparative clinical study of two groups, Jeerakadi Lepa and Mukhakantikara Lepa, in the management of *Vyanga* w.s.r. to Melasma on the face with the hope of quicker action.

OBJECTIVES:

- To evaluate the efficacy of *Jeerakadi lepa* in the management of *Vyanga*.
- To evaluate the effectiveness of *Mukhakantikara lepa* in the management of *Vyanga*.
- To compare the effectiveness of *Jeerakadi lepa* and *Mukhakantikara lepa* in managing *Vyanga*.

SOURCE OF DATA

SAMPLE SOURCE:

40 Patients, irrespective of sex and socioeconomic status of Vyanga, will be selected from the OPD of SDM Trusts Ayurvedic Medical College Danigond Post Graduation Centre, Padma *Ayurvedic* Hospital and Research Centre Terdal, Karnataka 587315.

METHOD OF COLLECTION OF DATA

- Study Design: A Randomized comparative clinical study
- Sample Size: 40 patients who fulfilled the inclusive criteria of Vyanga were selected randomly and placed under two groups, A and B, with 20 patients in each group.

1. Group A (Trial group): 20 patients were treated with *Jeerakadi lepa* with milk, once in a day E/A for 30 days

2. Group B (Control group): 20 patients were treated with *Mukhakantikara lepa* with water , once in a day E/A for 30 days.

SELECTION CRITERIA:

INCLUSION CRITERIA:

1. Patients with signs and symptoms of *Vyanga* as per *Ayurvedic* classics were included
2. Subjects aged between 16 to 60 years of either sex, irrespective of religion or socioeconomic status, were selected for study.
3. Patients with oral hormonal pills.
4. Patients with Secondary Systemic, Endocrine, and Metabolic disorders.

EXCLUSION CRITERIA:

1. Hyperpigmentation caused since birth like Nevus of Ota.
2. Patients under other treatment of *Vyanga*.

DIAGNOSTIC CRITERIA:

Diagnosis will be made on parameters.

- *Kandu*
- *Daha*
- *Mandal's*
- Size of lesions (in cm)
- MASI Score (Grades of area involved, severity of pigmentation darkness and homogeneity scales)
- Fitzpatrick scale
- Assessment of patients was made on the basis of MASI SCORE Grades of area involved.

Table 01

Grades	Area of involvement
0	No involvement
1	<10%
2	10%- 29%
3	30%-49%
4	50%-69%
5	70%-89%
6	90%-100%

Table 02: Grades of severity of pigmentation darkness and homogeneity scale

Grades	Darkness	Homogeneity
0	Absent	Absent
1	Slight	Slight
2	Mild	Mild
3	Moderate	Moderate
4	Maximum	Maximum

Table 03: Overall assessment made on MASI Score

Grades	MASI Score
0	No involvement
1	Mild involvement (25%-50%)
2	Moderate involvement (51%-75%)
3	Severe involvement (76%-100%)

INTERVENTIONS :

Sl. No	**Particulars**	**Group A *Jeerakadi Lepa* with Milk**	**Group B *Mukhakantikara Lepa* with water**	**Observational Period**	**Total study Duration**
1	**Dose**	Quantity sufficient	Quantity sufficient	BT-0th day	

2	**Duration**	30 days (once in a day application)	30 days (once in a day application	AT-30th day AFU-45th day	45 days

Application of *lepa*: Patient should apply the *lepa* (paste)over affected area in *Pratiloma gati* for 30 days with thickness of half *angula Alepa* once in a day.

Duration of each application retained until it gets dried, once it dries the patient is asked to wash the face with water and do not exposure to sun for 30 minutes.

OBSERVATION AND RESULTS

Parameter	**Group**	**N**	**Mean Rank**	**Sum of Ranks**	**Mann-Whitney U**	**P-Value**	**Remarks**
Mandalas	Group A	20	21.00	420.00	190.000	.739	NS
	Group B	20	20.00	400.00			
	Total	40					
Size of lesions	Group A	20	20.50	410.00	200.000	1.000	NS
	Group B	20	20.50	410.00			
	Total	40					
MASI Score	Group A	20	19.60	392.00	182.000	.576	NS
	Group B	20	21.40	428.00			
	Total	40					
Fitzpatrick scale	Group A	20	19.75	395.00	176.000	.629	NS
	Group B Total	20 40	21.25	425.00			

DISCUSSION

In *Jeerakadi*, *Sweta* and *Krishna Jeeraka* does *lekhana* and *Twakdoshahara* property ,*Krishna tila vranashodhana, ropana, snehana* and *Sarshpa* as *lekhna* and *varnya* . The K*atu* ,*Tikta, Kashaya rasa, Ushna veerya* and *Katu vipaka, laghu, tikshna, ruksha guna* of *Jeerakadi* which helps to remove the *ama*, *srotoavrodha* and mitigates the *vata dosha* and same time it stimulates *Bhrajaka pitta* and does *lekhana*. Vit E- photoprotective property inhibits the production of PGE2 and nitric oxide and prevents sunburn cell formation, epidermal protection from oxidative stress. *Brajaka agni* and *rasa dhatwagni* it occurs by virtue of *ushna guna* of *bhrajaka pitta* it metabolizes *kriya dravy*a in turn reduce area ,homogeneity and darkness. which indicates that the given treatment *Jeerakadi Lepa* showed considerable effect on reducing overall effect on MASI Score in all the patients of *Vyanga* . In *Mukhakantikara lepa* Antityrosinase, Manjishthin, Purpurine, Pseudopurpurine, Xanthopurpurine also helps to reduce the pigmentation. Curcumin, ascorbic acid , quercetin ,Vit E, Flavonoids ,phenolic acid antioxidant , antifungal, antimicrobial, photoprotective ,anti chlosma, antityrosinase due to these properties it blocks the multiple melanosomes formation ,tissue destruction and blocks the UVA &UVB in turn reduces the size of lesions.

CONCLUSION

In this present study both the groups i.e Group A *Jeerakadi lepa* and Group B *Mukhakantikara lepa* have shown statistically significant results within the group with P value <0.001. The clinical study has shown statistically non-significant results with P value >0.001 on comparing the groups, but on overall assessment between the groups, Jeerakadi lepa of

Group A is a little more effective than Mukhakantikara lepa of Group B with a difference of mean rank 0.25 on objective parameter i.e MASI Score & Fitzpatrick scale. Hence, it can be concluded that rejecting the null hypothesis H0 and accepting the alternate hypothesis, i.e., H2: Jeerakadi lepa, is more effective than *Mukhakantikara lepa* in managing Vyanga. *Jeerakadi* lepa is cost-effective compared to Mukhakantikara lepa it consists of costly ingredients like Raktachandana, Manjista, and *Priyangu*.

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