



A CLINICAL STUDY TO EVALUATE THE EFFICACY OF GUDUCHI GHRITA AND KARANJA TAILA AFTER VIRECHANA IN THE MANAGEMENT OF EKAKUSHTA VIS-À-VIS CHRONIC PLAQUE PSORIASIS

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ABSTRACT

As the interface with the surroundings, the skin plays the most important role in protecting against pathogens. The size and external location of the skin make it susceptible to various disorders. Skin diseases are mostly caused by infections. Its other main functions are insulation and temperature regulation, sensation, and vitamin D synthesis. Skin is considered one of the most important parts of the body. *Ekakushta* one among the *kshudra kushta* is characterized by *Aswedana*, *Mahavastu*, and *Matsyashakalavat twacha*. The clinical features of Eka kusta described in Kashyapa Samhita represent the remission, relapse, and seasonal variation, which are present in Psoriasis. The clinical features of *Ekakushta* bear a greater resemblance with Chronic Plaque Psoriasis. Psoriasis is one of the most common skin disorders encountered in clinical practice characterized by erythematous, circumscribed, silvery skin lesions. *Guduchi Ghrita* which is specifically mentioned in *kushta chikitsa* is taken as an intervention after the *virechana karma*.

Keywords: *Mahakushta*, *kshudrakusta*, *ekakushta*, *virechana*, Psoriasis, *Guduchi ghrita*

INTRODUCTION

A survey conducted by the National Psoriasis Foundation reports that almost 75% of patients believe that psoriasis had a moderate to the large negative impact on their quality of life(QOL) with alterations in their daily activities. This survey also concludes that at least 10% of psoriasis patients had contemplated suicide. Furthermore, the physical and emotional effects of psoriasis were found to have a significant negative impact on the patient's workplace. Chronic Plaque Psoriasis is the common type of stable psoriasis that manifests as coin-sized to large palm-sized well-defined erythematous squamous plaques-distributed bilaterally on extensors of the body. Psoriasis can lead to social isolation and stigmatization adversely affecting the quality of daily life. Its relapse and remitting nature make the condition worse. Hence the current study is taken up to assess and compare the clinical efficacy of *Guduchi ghrita* after *samsarjana karma* of *virechana* in the management of *Ekakushta vis-à-vis* chronic plaque psoriasis.

The objective of the study: To evaluate the efficacy of *Guduchi ghrita* and *Karanja beeja taila* after *virechana* in *Ekakushta vis-à-vis* chronic plaque psoriasis.

Materials and methods:

Materials

The Materials used in the study were:

- *Guduchi Ghrita*¹ – contains only guduchi
- *Karanja beeja taila*² – contains only *Karanja beeja*.

Source of drugs and method of preparation:

Raw drug for the preparation of *guduchi ghrita* was procured from GMP-certified S N Pandit and son's pharmacy. The formulation was prepared at the pharmacy of the Government *Ayurveda* Medical College and Hospital, Mysuru. *Karanja beeja taila* was procured for the study from SN Pandit and sons Pharmacy (GMP Certified Unit), Shankar matt main road, opposite Nataraja Choultry, Mysuru.

Methods – the source of the data :

Subjects were selected from the OPD and IPD of Government *Ayurveda* Medical College and Hospital, Mysuru, and Government Hi-Tech Panchakarma Hospital- a teaching hospital, Mysuru, and special was also conducted for the study.

Sample size: The study was completed on 20 subjects of *Ekakushta vis-à-vis* chronic plaque psoriasis. The selected subject's detailed profile was prepared as per the proforma designed for the study.

Sampling method: It was an interventional study with pre, mid and post-test design.

Inclusion criteria :

1. Subjects of all gender, between the age group of 18-60 years with the signs and symptoms of *Ekakushta vis-à-vis* chronic plaque psoriasis were selected for the study.
2. Both fresh cases and treated cases were included.
 - A. Fresh cases include freshly detected and untreated cases of *ekakushta vis-a-vis* chronic plaque psoriasis.
 - B. Treated cases include those already diagnosed as *ekakushta vis-a-vis* chronic plaque psoriasis, who had voluntarily discontinued the treatment with the flush-out period of 7 days.

Exclusion criteria :

1. Subjects with K/C/O Diabetes mellitus (RBS->200mg/dl), K/C/O Hypertension(uncontrolled), Ischemic heart diseases, and immune-compromised subjects were excluded.
2. Subjects suffering from any other systemic disorder which may interfere with the intervention were excluded.
3. Pregnant and lactating women were excluded.
4. Chronic plaque psoriasis where lesions with secondary severe infections were excluded.

Diagnostic Criteria: Diagnosis was made based on the *lakshana* of *ekakushta* and signs and symptoms of Chronic plaque psoriasis.

Lakshana of ekakushta are³:

- *Aswedana* (absence of perspiration, always dry in nature)
- *Mahavastu* (a large area involved, coin to palm shaped)
- *Matsyashakalavat twacha* (silvery scales)
- *Krishna aruna varna mandalas* (black or reddish brown skin lesions)
- *Abhraka patra sadrusha twacha* (scales resembling mica)

Symptoms of Chronic plaque psoriasis

- Dry, raised, red skin lesions (plaques) covered with silvery scales.
- Positive Auspitz sign.

- Positive Candle grease sign
- Positive Koebner phenomenon

Assessment criteria: To assess the effect of therapy, the Psoriasis Area and Severity Index score(PASI) scoring method was adopted. PASI scoring was calculated before starting, during, and after completion of the intervention, and the total percentage of improvement in "PASI" scoring was calculated to assess the effect of the treatment on this parameter. Data were analysed by using contingency coefficient table analysis. The assessment was done on the basis of the severity of Itching, Erythema, Scaling, and thickness in the affected area.

Table 01: Showing Diseased Skin Grading

| Coverage | Score |
|----------|-------|
| 0 | 0 |
| <10% | 1 |
| 10-29% | 2 |
| 30-49% | 3 |
| 50-69% | 4 |
| 70-89% | 5 |
| 90-100% | 6 |

The severity was measured by four different Parameters i.e. Itching Erythema Scaling and Thickness. Again all these were measured separately for each skin section.

These were measured on a scale of 0 - 4, from none to maximum according to the following chart:

Table 02: Showing Severity Score

| Severity | None | Mild | Moderate | Severe | Very severe |
|----------|------|------|----------|--------|-------------|
| Score | 0 | 1 | 2 | 3 | 4 |

After figuring out all the scores, the final "PASI" was calculated. Thus PASI scoring was calculated before starting the intervention, after *samsarjana krama*, and after the completion of the intervention, and the overall percentage in "P.A.S.I" scoring was calculated to assess the effect of the Intervention.

Overall assessment of clinical response:

Complete remission - PASI score 0 after treatment.

Marked improvement – Reduction in PASI score >75%

Moderate improvement - Reduction in PASI score between 75% and 50%.

Minimal improvement – Reduction in PASI score <50%

Unchanged – No reduction in PASI score.

Assessment schedule:

- A pre-test assessment was done before administering *virechana*.

- Mid-test assessment was done before administering *Shamanaushadhi*.
- The post-test assessment was done after the completion of the intervention (on the 30th day)

Investigations: Necessary investigations were conducted in required cases to rule out other systemic diseases or complications.

Intervention:

The interventions were as follows: All the subjects were administered with *virechana karma* before starting the intervention as a pre-requisite.

Virechana karma was administered as follows.

After *deepana pachana*, *Sodhananga snehapana* was administered with *guggulu tiktaka ghrita* from the day of *nirama lakshana* till *samyaka snigdha lakshna* were seen. *Sarvadaihika abhyanga* with *tila taila* followed by *mrudu swedana* was done for 3 days. For *virechana*, a particular quantity of *Trivrut lehya* based on the *koshta* of the subject was administered. *Samsarjana karma* was followed according to the type of *shuddhi*. *Shamanaushadhi* was started after completion of *Samsarjana karma*; *Guduchi ghrita* - a single dose of 30 ml was administered on empty stomach early in the morning with hot water for 30 consecutive days along with the *karanja taila* as an external application.

Statistical methods: The result was compared and analyzed statistically by using the following statistical methods:

Descriptive Statistics-Mean, Standard deviation, Frequency, Percent.

Inferential testing –

1. Chi-square test
2. Repeated measures ANOVA
3. Contingency coefficient

All the statistical methods will be done using SPSS for windows.

Observation and results:

The study was completed in 20 subjects and observations are as follows; Among 20 subjects, 7 subjects belonged to the age group of 18-30 years, 3 subjects were in the 31-40 years of age group and 6 subjects belonged to the 41-50 years of age group and 4 subjects were in between 50-60 years of age,

19 subjects were male and 1 subjects were females. 3 subjects were daily wage workers, 1 subject was a student, 3 subjects were working in various factories, 1 subject was a homemaker, 1 subject was a farmer and 11 subjects were business men. Among 20 subjects, 1 had a chronicity of less than 1 year, 16 subjects had a chronicity of 1-5 years, and 3 subjects had a chronicity of 6-10 years. Among 20 subjects, 5 subjects were fresh cases and 15 subjects were treated with some other medications. Among 20 subjects, 6 subjects had a family history of psoriasis and 14 subjects did not have any family history.

Results

Data was collected before *virechana*, after *virechana*, and after the completion of the intervention. These were analyzed by using contingency- coefficient table analysis. Repeated measure ANOVA, descriptive statistics using SPSS, and overall assessment with the help of a chi-square test. In this study, the results were analyzed using the PASI score in which the assessment was done on the basis of skin affected in each area by itching, erythema, scaling, and thickness.

Total PASI of Head Region: Before *Virechana*, the mean was 2.1250 with an SD of 1.71645, after *virechana*, the mean was 1.0750 with an SD of 1.09202, and after *shamanaushadhi*, the mean was 0.6200 with SD of 1.02782. Thus the result of the Total PASI of the head is highly significant with a P value of 0.000

Total PASI of Upper Extremities: Before *virechana*, the mean was 9.1400 with an SD of 3.80863, after *virechana* mean was 4.5800 with an SD of 3.01917 and after the intervention, the mean was 2.4300 with SD of 2.31451. Thus the result of Total PASI of Upper Extremities is highly significant with the P value 0.000

Total PASI of Trunk: Before *virechana* in group A mean was 9.0750 with an SD of 6.81460, after *virechana* mean was 4.1700 with an SD of 3.75193 and after the intervention, the mean was 2.4150 with SD of 2.50899. Thus the result of the Total PASI of the Trunk is highly significant with a P value of 0.000

Total PASI of Lower Extremities: Before the virechana mean was 20.7600 with an SD of 7.71044, after the virechana mean was 12.080 with an SD of 6.52974 and after the intervention, the mean was 8.9700 with an SD of 5.43721 Thus the result of Total PASI of Lower Extremities is highly significant with the P value 0.001

Overall assessment:

In the present study, out of 20 subjects, it was observed that 11(55.0%) subjects showed marked improvement, 7 (35.0%) subjects showed moderate improvement and 2 (10.0%) subjects got minimal improvement. By this, we can infer that Shamanoushadhi i.e., Guduchi Ghrita and Karanja beeja taila has good results in the management of Ekakushta vis-à-vis Chronic plaque psoriasis.

Discussion:

The probable mode of action of Guduchi in chronic plaque psoriasis

Pharmacological actions of guduchi

Action on dosha- guduchi helps in pacifying vata dosha and checks the abnormal differentiation and proliferation of keratinocytes. Sushruta Samhita and ashtanga hridaya mention that the guduchi pacifies pitta and kapha dosha thereby reducing the inflammation and scaling the psoriatic patient.

Action on dhatu- Guduchi acts as a raktashodhaka. Since kushta is a Raktapradoshaja vyadhi, shodhana of rakta dhatu will reduce the intensity of the disease.

Action Agni- Deepana of both Bhrajakagni and jata-ragni is done by guduchi thereby reducing the formation of Amavisha at the level of twak and in Jata-
ra.

Action on srotas- As it is raktashodhaka, it acts on raktavaha srotas and reduces the signs like shyavata, and ragata of the lesions.

Sthanika karma- Local action of guduchi is kandughna and hence itching can be controlled due to the use of this drug.

Action on buddhi and manas- Guduchi is both medhya and Hrudya. So, guduchi can help to relieve the psychological disturbances in psoriatic so as to prevent the triggering of the disease.

The probable mode of action of guduchi ghrita as a shamana sneha

Shamana sneha conveys the meaning of the administration of sneha in different disorders with attention to pacifying the aggravated dosha without expelling them out and bringing them back to a normal state. The action of shamana sneha depends entirely on the time of administration of sneha. Guduchi ghrita when administered during annakaala, when the patient is having a good appetite, gets digested easily without adhering to the lumen of the srotas. These sneha then spread all over the body, gain access into sukshma srotas, and reach the site of the vitiated dosha by virtue of its sukshma guna. After reaching the site of vitiation it pacifies the dosha with its tikta and Kashaya rasa. Lipid substances which are similar to the cell membrane lipids, get directly incorporated into the cell membranes and some of the lipids and lipid-soluble substances directly reach the cytoplasm through the cell membrane. In the same way in psoriasis, guduchi ghrita may act on the stem cells present in the stratum basale which are responsible for the continuous production of keratinocytes, and accelerated epidermal proliferation gets controlled. Guduchi ghrita employed in the form of shamana sneha may have the capacity to overcome all these pathological conditions.

- Sneha i.e. fat is essential for the absorption of vitamins A, D, E, and K. Ghrita helps to supplement the vitamins by its absorption. Which act on cellular differentiation and inhibit the proliferation of keratinocytes
- Psoriasis is a chronic disease where immunity goes on declining. Ghrita by having an immunomodulator and anti-oxidant effect overcomes the problem.
- The drug guduchi possesses balya rasayana karmas may act as an immunomodulator to overcome the immunopathological factors of psoriasis.
- Psoriasis is a psycho-somatic disorder while Guduci, which is said to in a medhya rasayana as well as a drug of choice; in twacya rasayana

brings them to normality. It has been found that the guduchi Ghrita has exhibited an anti-stress effect.

Probable mode of Action of Karanja beeja taila

Action on Dosha-

Action on Dosha- Karanja beeja taila acts as vata kaphahara due to its katu rasa, laghu ruksha guna and ushna virya. It acts as a kushtaghna, krimighna, vishaghna by its tikta and katu rasa pradhana dravya. **Action on Dhatu-** The dravya with Tikta rasa may help to bring sthira karana of mamsa and twacha and there twak prasada is attained. Vitiating of twagadi dhatu may be relieved by the shodhaka property of Karanja. Tikta and katu rasa makes the shoshana of excessive kleda and lasika. It does the lekha of dushita mamsa and acts as vrana ropaka, and vrana shodhaka in terms of reduction in hyperkeratinisation by acting on a cellular level. The Imiquimod model of psoriasis was used in the evaluation of the drug and RT-PCR was done to check cytokines concentration in the blood serum of psori-

asis-induced mice. The drug karanjin oil was proved to have anti-psoriatic activity⁴.

CONCLUSION

Based on the observations made in the present study, the following conclusions were drawn, In the present study, a Maximum number of subjects were having nidana of kushta and genetic predisposition. The majority of symptoms such as matsya shakalvat twacha- silvery scaly lesions, Krishna aruna mandala- black or reddish-brown lesions, mahavastu- extensive lesions, abhraka patra sadrisa – like mica were seen which resembles the clinical features of chronic plaque psoriasis. A clinical study was conducted using guduchi ghrita in a group consisting of 20 subjects with external application of karanja taila for 30 consecutive days. The intervention was started after virechana karma. Guduchi ghrita was more effective in reducing itching. Out of 20 subjects, it was observed that 11(55.0%) subjects showed marked improvement, 7 (35.0%) subjects showed moderate improvement and 2 (10.0%) subjects got minimal improvement with no adverse effects of drugs.

Case Study Photographs Before Treatment After Treatment



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