Clinical Research

Clinical efficacy of Shodhana Karma and Shamana Karma in Mandala Kushtha (Psoriasis)

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Abstract

In India an estimated 0.8% of the population is suffering from Psoriasis. It is a papulo-squamous disorder of the skin, characterized by sharply defined erythematous-squamous lesions. It is chronic and is well known for its course of remissions and exacerbations. The exact etiology is still unknown. This condition is comparable with Mandala Kushtha in Ayurvedic system of medicine. Shodhana procedures are reliable to control the disease. Forty patients, fulfilling the inclusion criteria, were selected and randomly divided into four groups with 10 patients each. In Group A, Vamana and Virechana was administered once during the trial period. In Group B, Vamana and Virechana followed by Dermo-care in the dose of 5 g twice a day for the period of 2 months. In Group C, only Dermo-care was administered. In Group D, Tab. Neotrexate (Methotrexate) 7.5 mg/week was given under the supervision of dermatologist. Marked improvement was observed in 10% of the patients in Group B. Moderate improvement was observed in 20% of the patients in Group A, 90% in Group B, and 80% in Group D. Mild improvement was observed in 80% of the patients in Group A, 100% in Group C, and 20% in Group D.

Key words: Mandala Kushtha, Psoriasis, Shamana, Shodhana, Vamana, Virechana

Introduction

In Ayurveda all skin diseases are categorized under “Kushtha”. Mandala Kushtha a type of Maha Kushtha is a chronic of Kushtha. Even if it is cured relapses are common. Mandala Kushtha is stated to be Tridoshaja with the dominance of Kapha Dosha. The description and characteristic features of Mandala Kushtha are nearer to Psoriasis. Hence, Mandala Kushtha can be compared with Psoriasis.

Psoriasis is chronic and well known for its course of remissions and exacerbations. Modern medical science treats psoriasis with spiraled (P) and ultraviolet A (UVA) therapy PUVA, corticosteroids, and antimitotic drugs. But these therapies are associated with serious side effects like liver and kidney failure, bone marrow depletion, etc.[1,2]

Panchakarma therapy of Ayurveda has attracted attention of the people worldwide as it is an unique sort of treatment of various chronic, auto immune, hormonal, degenerative disorders, etc., where other sorts of treatments have no satisfactory answer. Acharya Charaka has highlighted the role of Panchakarma therapy by stating that the disease treated by Shodhana will never recur, whereas the treatment with Shamana therapy may recur in due course of time.[3]

In addition, if Shamana drugs are administered after proper course of Shodhana, then it provides additional relief and thus helps in eradicating the diseases completely.

Vamana Karma is the best measure for Kapha Dushti, whereas Virechana Karma is indicated not only for Pitta Dusha but also in Kapha and Rakta Dushti.

Jeemutaka (Luffa echinata) is selected for Vamana instead of Madana Phala (Randia spinosa) as it is specially indicated in Kushtha Roga.[4]

Considering all the above, it has been planned to evaluate comparative efficacy of Vamana, Virechana and Shamana Yoga (Dermo-care) [Table 1] in Mandala Kushtha (Psoriasis).

Materials and Methods

Study design
An open prospective clinical trial.
Patients
Patients suffering from Mandala Kushtha fulfilling the inclusion criteria were randomly selected from the Out-Patient Department (OPD) and the In-Patient Department (IPD) section of National Institute of Ayurveda, Jaipur and Girdhar Hospital and Research Centre, Jaipur. Total 47 patients were registered in the trial, out of which 40 patients were completed course of treatment.

Inclusion criteria
- Patients aged between 12 and 60 years.
- Patients having the clinical features of Mandala Kushtha (Psoriasis).

Exclusion criteria
- Patients aged below 12 and above 60 years.
- Patients with leprosy, tuberculosis, paralysis, and malignant diseases.
- Pregnant women and lactating mothers.
- Patients with systemic disorders viz. uncontrolled hypertension, cardiac problems, diabetes mellitus, etc.
- Patients who are on steroids.

Plan of study
Registered patients were equally categorized in to four groups (10 in each group).
Group A: Vamana and Virechana
Group B: Vamana and Virechana followed by administration of Dermo-care (Anubhuta Yoga)
Group C: Only Dermo-care
Group D: Tab. Neotrexa (Methotrexate 7.5 mg/week)

Posology and duration of treatment
- The trial drug, Dermo-care [Table 1] – For the present clinical research work, a hypothetical indigenous herbo-mineral compound is prepared in Churna (powder) form was administered 5 g after meal, twice a day with potable water for a period of 2 months.
- Standard control drug, Tab. Neotrexa (Methotrexate) 7.5 mg/week (2.5 mg for three times at 12 hourly – 8 pm-8 am-8 pm/week) with potable water for 2 months. The drug was administered under the supervision of a dermatologist.
- Follow up was done for 2 months at regular interval of 15 days.

Table 1: Ingredients of Dermo-care (per 5 g)

| Sanskrit names         | Latin name          | Part use | Ratio   |
|------------------------|---------------------|----------|---------|
| Bakuchi                | Psoralia corylifolia| Seed     | 500 mg  |
| Katuka                 | Picromiza kurroa    | Root     | 500 mg  |
| Chitraka               | Plumbago zeylanica  | Root     | 500 mg  |
| Haritaki               | Terminalia chebula  | Pericarp | 250 mg  |
| Amalaki                | Emblica officinalis | Pericarp | 250 mg  |
| Guduchi                | Tinospora cordifolia| Stem     | 250 mg  |
| Trivitila              | Operculina turpethum| Root     | 250 mg  |
| Haridra                | Curcuma longa       | Rhizome  | 250 mg  |
| Mustaka                | Cyperus rotundus    | Rhizome  | 250 mg  |
| Vidanga                | Embelia ribes       | Fruit    | 250 mg  |
| Aragavdha              | Cassia fistula      | Fruit pulp| 250 mg |
| Mandukaparni           | Centella asiatica   | Whole plant | 250 mg |
| Jyotishmati            | Celastrus paniculatus| Seed    | 250 mg  |
| Shuddha                | Commiphora mukul    | Oleo-Resin | 250 mg |
| Shuddha Shilajita      | Asphaltum punjabimum| –      | 250 mg  |
| Shuddha Gandhaka       | –                   | –        | 250 mg  |
| Lohabhasma             | –                   | –        | 125 mg  |
| Shuddha Suvarna – Makshika | –                | –        | 125 mg  |

Vamana procedure
1. Patients were asked to drink Keheera (milk) till Akantha Parana is obtained. Approximately 2-3 l is needed to observe the signs and symptoms of Akantha Parana.
2. Administration of Jeemistha Phala (12 fruits) Kwatha with 2 g of Vacha (Acorus calamus), 1 g of Saishadhya (Rock salt) and 30 g of Madhu (Honey) as Vamana Yoga.
3. About 2-3 l of Vamanopaga Dravya i.e. Yashtimadhu Phanta (hot infusion of Glycyrrhiza glabra) was given, followed by administration of Lavanodaka (rock salt water).
4. Dhoompana was done with Dashamoola tail and Sarvaga Abhyanga by Dashamoola Kwatha was done.

Virechana procedure
This is same as Vamana Karma except that Koshtha Pareeksha, Deepana-Pachana, and Kaphoshakshaka Ahar, which is not done in Virechana Karma, whereas Abhyanga and Swedana were done for 3 days.

The Virechana Yoga [decoction made up of 15 g each of Aragavdha (Cassia fistula), Draksha (Vitis vinifera), Haritaki (Terminalia chebula) +4 g Katuki Churana (Picrorhiza kurroa) +30 ml Eranda Taila (castor oil) +2 tablets of Abhayadi Modaka] was given in empty stomach at 8-10 am.

Paschat Karma, same as Vamana Karma except Dhoomapavana.

Criteria for assessment of results
Psoriasis Area and Severity Index (PASI) score was considered for both subjective and objective parameters.

Totaling up the index
For each skin section, add up the three severity scores and multiply the total by the area score, and then multiply that result by percentage of the skin in that section.

The severity of PASI Parameters (scaling, erythema, and induration) and other parameters were assessed in the following manner.
The severity of *Kandu* (itching), *Mandala Rupa* (oval/round patches), *Krodha* (anger), *Shoka*, and *Chinta* (anxiety) was assessed in the following manner:

### A. Kandu (Itching)

| Score | Severity          | Description                      |
|-------|-------------------|----------------------------------|
| 0     | None              | No itching                       |
| 1     | Mild              | Itching reduced on scratching    |
| 2     | Moderate          | Reduced on oral medication       |
| 3     | Severe            | Reduced on oral and external medication |
| 4     | Very severe       | Occasionally reduced with medication |

### B. Mandala Rupa (Oval/round patches)

| Score | Severity          | Description                      |
|-------|-------------------|----------------------------------|
| 0     | None              | No patches/clear skin            |
| 1     | Mild              | Drop like circle                 |
| 2     | Moderate          | Oval-round patches               |
| 3     | Severe            | Large oval-round/elliptical patch |
| 4     | Very severe       | Patches mixed with each other    |

### D. Krodha (Anger)

| Score | Severity          | Description                      |
|-------|-------------------|----------------------------------|
| 0     | None              | No anger                         |
| 1     | Mild              | When gets anger, not showing outside |
| 2     | Moderate          | Usually gets anger but showing outside in control manner |
| 3     | Severe            | Shouting loudly but throwing the articles occasionally |
| 4     | Very severe       | Shouting loudly and harming others occasionally |

### E. Shoka

| Score | Severity          | Description                      |
|-------|-------------------|----------------------------------|
| 0     | None              | No Shoka                         |
| 1     | Mild              | Occasional thinking of problem with disturbed concentration |
| 2     | Moderate          | Occasional thinking of problem with disturbed sleep |

### Skin sections

| Section | Erythema | Induration | Scale | Coverage | BSF | Total PASI |
|---------|----------|------------|-------|----------|-----|------------|
| Legs 40%| BT       | AT         |       | ×        | 0.04| =          |
| Torso 30%| BT      | AT         |       | ×        | 0.03| =          |
| Arms 20%| BT       | AT         |       | ×        | 0.02| =          |
| Head 10%| BT       | AT         |       | ×        | 0.01| =          |

**BT** – Before Treatment; **AT** – After Treatment; **BSF** – Body Segment Factor; 
*Rating for regional surface area; Rating for Erythema, Induration and Scaling*
with the patients (97.5%) have gradual onset of the disease. 65% taking allopathic treatment and 12.5% were taking Ayurvedic family history of Psoriasis. Majority of patients, (72.5%) were had sedentary type of work, 80% were from urban area, 25% were married and have primary level education, 55% patients Maximum patients were in the age group of 20-30 years and of symptoms in winter season, 85% each have presented with the plaque and 75% had lesions on head. 7.5% had lesions on palm and the lesions on the legs and torso, 82.5% had lesions on arms, of the patients (97.5%) have gradual onset of the disease. 65% taking allopathic treatment and 12.5% were taking Ayurvedic family history of Psoriasis. Majority of patients, (72.5%) were had sedentary type of work, 80% were from urban area, 25% were married and have primary level education, 55% patients Maximum patients were in the age group of 20-30 years and 65% were males, 87.5% belongs to Hindu community, 85% were married and have primary level education, 55% patients had sedentary type of work, 80% were from urban area, 25% have chronicity of more than 5 years and 90% have negative family history of Psoriasis. Majority of patients, (72.5%) were taking allopathic treatment and 12.5% were taking Ayurvedic treatment. 62.5% patients have irregular bowel habits. 50% patients have Samayk Nidra and 35% have Alpa Nidra. Majority of the patients (97.5%) have gradual onset of the disease. 65% patients have Viruddha Ahara with 30% patients taking milk with Amla and Lavana Ras. Milk with fish is reported in 7.5% and milk with onion in 10%. Chinta was the major Manasika Nidana reported by 55% patients followed by Krotha in 42.5%, and Shoka in 27.5% patients. A total of 70% reported aggravation of symptoms in winter season, 85% each have presented with the lesions on the legs and torso, 82.5% had lesions on arms, and 75% had lesions on head. 7.5% had lesions on palm and sole and 5% had lesions on scalp. Nobody was observed to have lesions on genitals. Nearly 80% have presented with the plaque type of psoriasis, 10% having guttate psoriasis, and only 5% each having erythrodermic and pustular psoriasis. Nearly 90% have candle grease sign positive whereas Auspitz sign and Koebners phenomenon were found in 62.5% and 10%, respectively.

Sweta-Rakta Varna (faint reddish white) was observed in 87.5%, Sukla Rom-Raji Santanini (pervaded with white hairline/scale) in 85%, Kandu (itching) in 100%, Sukla Picchala Srava (thick white and slimy discharge) in 15%, Utsana Mandala (raised patches) in 87.5%, and Ananonya Sansatat Mandal (patches joined with each other) in 62.5% patients. Anubandhi Vedana like Ati Sweda (over sweating) in 2.5%, Asweda (absence of sweating) in 10%, Shheerpa Guruta (heaviness of the body) in 40%, Malabaddhata (constipation) in 50%, Agni Mandya (loss of appetite) in 37.5%, Suptata (numbness) in 2.5%, and Toda (pain) in 10% patients.

### Observations

Results

PASI scoring

In leg total PASI [Table 2], torso total PASI [Table 3], arm total PASI [Table 4], head total PASI [Table 5] statistically significant results were noted in all the four groups.

Marked improvement in total PASI was observed in the patients of Group B is (82.70%) and Group D (79.58%), which are both statistically highly significant. Moderate improvement was observed in Group A (58.29%) and Group C (53.70%), which is statistically significant and highly significant, respectively [Table 6].

On comparing the effect in all groups; it is clear that the patients from Group B showed maximum percentage relief as compared with other groups. Groups B, C, and D were statistically highly significant.

### Kandu

Moderate improvement in Kandu was observed in the patients of Group B (61.11%) and Group D (65.62%), which is statistically significant and highly significant, respectively. Mild improvement was observed in Group A (33.33%) and Group C (37.95%) and are mildly significant and highly significant, respectively.

On comparing the effect on all groups, it is clear that the patients from Group D showed maximum percentage relief as compared with other groups. Group C and D were statistically highly significant.

### Mandala Rupa

Moderate improvement in Mandala Rupa was observed in the...
patients of Group B (63.33%) and Group D (55.17%), which is statistically highly significant. Mild improvement was observed in Group A (55.48) and Group C (29.62%), which is statistically insignificant and highly significant respectively.

**Krodha**

Moderate improvement in Krodha was observed in the patients of Group B (57.08%) and Group C (67.00%), which is statistically insignificant. Mild improvement was observed in Group A (42.00%) while minimal improvement in Group D (22.22%), which is significant and insignificant respectively.

**Shoka**

Moderate improvement in Shoka was observed in the patients of Group A (54.64%), Group B (71.67%), and Group C (60.00%). Group A is statistically significant while Groups B and C both are insignificant.

**Chinta**

Moderate improvement in Chinta was observed in the patients of Group B (61.08%), Group C (55.55%), and Group D (66.66%). Group B is statistically highly significant whereas Groups C and D are moderately significant. Mild improvement was observed in Group A (41.32%) and is insignificant.

**Overall effect of therapy**

- In Group A, moderate improvement was observed in 20% patients whereas mild improvement was observed in 80% patients.
- In Group B, marked improvement was observed in 10% patients whereas moderate improvement was observed in 90% patients.
- In Group C, mild improvement was observed in 100% patients.
- In Group D, moderate improvement was observed in 80% patients whereas mild improvement was observed in 20% patients.

No one was observed to have improvement/controlled or minimal/no response toward therapy in any group [Table 7].

**Reurrence**

After 1 month, 0%, 0%, 28.5%, 10% and after 2 months 25%, 20%, 40%, 37.5% recurrence was found, respectively in A, B, C, D groups.

**Discussion**

Changes in life style, irregularities in dietary habits became major issues in current scenario and are responsible in manifesting a number of ailments. Significance of lifestyle and diet, etc., have been well recognized in Ayurvedic classics and emphasis a following the guidelines on Dinacharya, Rutucharya in eradication of various diseases can be readily observed in them.[9-14]

**Deepana and Pachana**

Panchakola Churna increases the Agni and then helps in Ama Pachana.

**Snehana**

Snehapana with Panchatikta Ghrita as a Purvakarma subsides the symptoms like Rakshata, Daha, etc., Similarities in chemical and physiological nature in Ghrita and human cell membrane intensifies the penetration of Sneha (Panchatikta Ghrita) in to deeper tissues causing partial rejuvenation of cell, smoothing of vitiated Dosha (stagnated metabolic wastes).

**Vamana and Virechana**

Soothened Doshas will get liquefied and reaches to Koshtha

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**Table 5: Pattern of clinical improvement in head total PASI in patients of all the four groups**

| Group | n    | Mean | Relief % | S.D. (±) | S.E. (±) | t      | P     |
|-------|------|------|----------|----------|----------|--------|-------|
|       | BT   | AT   | Diff.    |          |          |        |       |
| A     | 8    | 1.95 | 0.75     | 1.20     | 61.53    | 0.621  | 5.44  | 0.001 |
| B     | 6    | 1.98 | 0.41     | 1.56     | 78.88    | 0.554  | 6.90  | 0.001 |
| C     | 7    | 1.70 | 0.75     | 0.95     | 55.88    | 0.837  | 3.05  | 0.05  |
| D     | 9    | 2.70 | 0.54     | 2.16     | 80.00    | 0.761  | 8.53  | 0.001 |

**Table 6: Pattern of clinical improvement in total PASI in patient of all the four groups**

| Group | n    | Mean | Relief % | S.D. (±) | S.E. (±) | t      | P     |
|-------|------|------|----------|----------|----------|--------|-------|
|       | BT   | AT   | Diff.    |          |          |        |       |
| A     | 8    | 25.37| 10.58    | 14.79    | 58.29    | 12.972 | 4.105 | 3.58  | 0.01  |
| B     | 6    | 15.5 | 2.68     | 12.81    | 82.70    | 7.840  | 2.479 | 5.171 | 0.001 |
| C     | 7    | 17.56| 8.13     | 9.43     | 53.70    | 4.739  | 1.498 | 6.295 | 0.001 |
| D     | 9    | 29.93| 6.11     | 23.82    | 79.58    | 12.969 | 4.101 | 5.808 | 0.001 |

**Table 7: Overall effect of therapy in all four groups**

| Result                   | Group A |      | Group B |      | Group C |      | Group D |      |
|--------------------------|---------|------|---------|------|---------|------|---------|------|
|                          | No. of patient | %  | No. of patient | %  | No. of patient | %  | No. of patient | %  |
| Improvement/controlled   | 0       | 0   | 0       | 0   | 0       | 0   | 0       | 0   |
| Marked improvement (>75% relief) | 0       | 0   | 1       | 10  | 0       | 0   | 0       | 0   |
| Moderate improvement (50-75% relief) | 2       | 20  | 9       | 90  | 0       | 0   | 8       | 80  |
| Mild improvement (25-50% relief) | 8       | 80  | 0       | 0   | 10      | 100 | 2       | 20  |
| Minimal improvement (<25% relief) | 0       | 0   | 0       | 0   | 0       | 0   | 0       | 0   |
| No response (0% relief)  | 0       | 0   | 0       | 0   | 0       | 0   | 0       | 0   |
by Swedana, which can be easily eliminated by the action of Vamana and Virechana.

Thus it is clear that the toxins or nitrogenous waste materials that are collected in lower intestinal cells are removed by Virechana and thus cleansing the lower passage and rejuvenating each and every cell of lower GIT.

These Shodhana (Vamana and Virechana) probably may leads to certain endogenous changes in the body responsible for the alleviation of psoriatic pathological process.

**Dermo-care (Kalpit Yoga)**

Most of these drugs have following properties – Kushtaghna, Krimighna, Rakta Shodhana, Kendugna, Medhya, Rasayana, Kaphaghna, Twachya, Yakriduttejaka, Agni Vardhak, and also Tridoshaghna. The synergistic actions of Tikta and Kashaya Rasa dominant herbs and minerals are likely to check the etio-pathogenesis of Mandal Kushtha (Psoriasis) and arrest its progress.

**Conclusion**

Vamana and Virechana along with Dermo-Care proved more effective to control erythema of leg and arm; induration of leg, torso, arm, and head; scales of leg, torso, and head; coverage area of torso and arm; Mandal Ruha and Shoka. Only Dermo-Care is more effective to control Krodha. Neotrexate (Methotrexate) is more effective to control in erythema in torso and head; scales in arm; coverage area of leg and head; Kendu and Chinta. Shodhana independently have shown much better results than the patients treated with Shamana therapy (Dermo-care yoga). Neotrexate (Methotrexate) independently have shown much better results than the patients treated with Shodhana alone or Shamana therapy (Dermo-care) alone. Shodhana followed by Shamana therapy have shown better results than the patients treated with Shodhana, Shamana therapy or modern medicine alone.

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**हिंदी सारांश**

**शोधन कर्म एवं हर्बोमिनरल औषध योग की मण्डल कुश (सोरियेसिस) की चिकित्सा में कार्यकुश्ता का अध्ययन**

गुज्जन मंगल, गोपेश मंगल, राष्ट्रेयार्थ शर्मा

आयुर्वेद की कोई भी व्याधि सोरियेसिस के लक्षणों वाली नहीं है, परन्तु इसके कुछ लक्षण मण्डल कुश से मिलते हैं। भारत की जनसंख्या 0.6% सोरियेसिस से पीड़ित हैं। यह एक जैविक-स्वेच्छाकृति है, जो एरिथमेटो-स्केमस विकृति से जानी जाती है। इसका शरीरी कारण पता नहीं है, परन्तु व्यक्ति और श्रेणी कर्म से ये व्याधि दीय होती है। अध्ययन में 80 रोगी नैदानिक आधार पर, विभिन्न क्रम के 4 वर्ष में लिये गये। वर्ग अ-व्यक्ति, विशेष; वर्ग ब-व्यक्ति, विशेष और इम्येक्सियर 5 ग्रा. दो माह के लिए; वर्ग स-इम्येक्सियर 5 ग्रा. दो माह के लिए; वर्ग द-टेब. Neotrexate 7.5 mg प्रति सप्ताह, तीन विभाजित मात्रा में। चिकित्सा के पर्याप्त लाभान्विक आधार पर वर्ग ब में 90 प्रति रोगी में अधिक लाभ पाया गया; वर्ग अ में 20 प्रति रोगी में मध्यम लाभ पाया गया; वर्ग ब में 90 प्रति रोगी में मध्यम लाभ पाया गया; वर्ग द में 80 प्रति रोगी में अधिक लाभ पाया गया; वर्ग अ में 80 प्रति रोगी में अधिक लाभ पाया गया; वर्ग ब में 80 प्रति रोगी में अधिक लाभ पाया गया; वर्ग द में 80 प्रति रोगी में अधिक लाभ पाया गया।