



Research Article

EXPLORATORY STUDY TO ASSESS THE EFFICACY OF JALAUKAVACHARANA (HIRUDOTHERAPY) IN THE MANAGEMENT OF VICHARCHIKA (ECZEMA)

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ABSTRACT

Though the skin diseases are not a life threatening, they make the patient worried due to its appearance. Severe itching or burning or oozing disturbs his routine and its nature susceptible to be chronic. Even though many skin diseases may be cured yet the relapsing nature of few diseases (eczema, psoriasis, seborrhidematitis etc.) makes it much harassment for patients and trouble some for physician too. Eczema is a pattern of inflammatory response of the skin characterized by redness, skin edema, itching and dryness, with possible crusting, flaking, blistering, cracking, oozing or bleeding. Ayurvedic science explains this disease as *Vicharchika*. As the Ayurveda classics have detailed the use of *Jalauka* (leech) in the treatment of various skin manifestations, the present study has been performed to assess the effectiveness of blood-letting by making use of leech in the management of Eczema. By the study, making use of leeches has found to be very effective in relieving the signs and symptoms of Eczema.

Key words: *Jalaukavacharana*, Hirudotherapy, *Vicharchika*, Eczema, Blood-letting, Leech therapy.

INTRODUCTION

Eczema or dermatitis is a pattern of inflammatory response of the skin which is the resultant of delayed type hypersensitivity mediated by memory T lymphocytes in the skin.^[1] The clinical lesions may be acute (wet and edematous) or chronic (dry, thickened, and scaly), depending on the persistence of the insult.^[2] The term eczema is broadly applied to a range of persistent or recurring skin rashes characterized by redness, skin edema, itching and dryness, with possible crusting, flaking, blistering, cracking, oozing or bleeding. Areas of temporary skin discoloration sometimes characterize healed lesions, though scarring is rare.^[3] Long-standing eczema is often dry and is characterized by thickened, scaling skin with hyper pigmentation and visible criss-cross markings (lichenification).^[4]

In Ayurveda, the various skin disorders are detailed under the heading of *Kushta*. *Vicharchika* is specially mentioned under the heading of *Kshudra Kushta* (minor skin diseases) in Ayurvedic classics and it is similar to disease eczema in modern medical science.^[5,6] As in general all the *Kusthas* are said to possess a *Tridoshaja* origin, *Vicharchika* can also be understood in the same way where *Kandu* (pruritis) in *Vicharchika* is caused due to *Kapha*, *Srava* (discharge) due to *Pitta* and *Shyavata* (blackish discoloration) due to *Vata*.^[7] Despite of its *Tridosha* origin various *Acharyas* mentioned different *doshic* dominance in *Vicharchika* such as *Kaphapradhanyatha* (dominance of *Kaphadosha*),^[8] *Pittapradhanyatha* (dominance of *Pittadosha*),^[9] *Vata-Pitta Pradhanyatha* (dominance of both *Vata* and *Pitta*). As per Ayurvedic classics, *Raktadushti* (vitiation of blood) is one of the

prime causes of skin diseases.^[10] Same is the case with *Vicharchika*, where it is considered to be a *Rakta Pradoshaja Vikara* (diseases caused due to the vitiation of blood) having involvement of three *Dosha* with specific dominance of *Kapha*.^[11]

The Ayurveda classics advocate several line of conservative treatment for *Kushta* disease specially *Vicharchika*.^[12] Also the disease which doesn't respond to the various medical treatment are definitely of blood vitiated disorders as per Ayurvedic understanding.^[13] Among the *Shodhana karmas* (purificatory treatments), bloodletting is considered as the best treatment for skin diseases. According to Acharya *Sushruta*, if a person regularly undergoes bloodletting, he can develop resistance against all types of skin diseases.^[14] Blood-letting is one of the ancient and important parasurgical procedures described in Ayurveda for treatment of various diseases. Various methods are employed for blood-letting such as the use of *Shringa* (horn), *Jalauka* (leech), *Alabu* (gourd), *Prachhana* (scarification) and *Siravyadha* (vein puncture). Among them, leech therapy (blood-letting using leech) has gained greater attention globally, because of its medicinal values it possesses. Being a disease caused due to vitiated blood, the same blood-letting therapy using leeches can be advocated in case of Eczema also. Keeping this view in mind we have started and evaluated the efficacy of leech therapy in the patients of Eczema.

Methodology

Among the patients of Eczema (*Vicharchika*) attending the out-patient department of Sushruta Colorectal Clinic, Bareilly, Uttar Pradesh, India. 40 patients were selected and examined clinically in detail according to the special proforma prepared for it. The detailed physical examination of skin in respect to Eczema was carried out.

INCLUSION CRITERIA

1. Lesions not more than 10cm diameter
2. Lesions limited to either lower extremities (below knee joint) or upper extremities (below elbow joint).

Exclusion criteria

1. Patients associated with hypertension, diabetes, anemia, obesity and infectious diseases.

2. Lesions more than 10cm diameter.
3. Lesions with secondary infections.
4. Diagnosed cases of Photodermatitis, systemic drug reactions.
5. Atopic dermatitis and nummular eczema.

Diagnostic criteria

The diagnosis was made on the basis of signs and symptoms of Eczema as described in Ayurveda and modern science. Skin smear culture test was done to rule out secondary bacterial infections.

Laboratory investigations:

- Skin smear culture test for Bacteria
- Absolute eosinophil count (AEC)
- Clotting time
- Bleeding time

Intervention: The diagnosed patients of Eczema who were fulfilling the criteria of inclusion were done leech application either in morning or in afternoon. The number of leeches depends on the size of lesion (in lesions of about 5-6 cm - 1 leech, in about 6-8 cm - 2 leeches and in about 8-10 cm - 3 leeches). Such four continuous sittings with a gap of two days were carried out.

Follow up study: After four sittings, patients were followed at regular interval of seven days for a period of fifteen days.

Method of Leech application

Poorva Karma (pre-operative procedures)

Requirements: *Nirvisha Jalaukas* (non-poisonous leeches), *Haridra* (*Curcuma long* Linn.) powder, sterilized gloves, gauze roller, sterilized cotton, scissors, artery forceps and two fresh bowls). All the subjects were checked for blood pressure and pulse rate before and after the procedure.

Preparation of leeches: The leeches are kept in bowl filled with *Haridra* water for 10 min to activate them and then they are transferred to a clean water filled bowl.

Preparation of patient: The subjects were asked to lie down on the table comfortably and later the area around the lesion was cleaned with dry gauze.

Pradhana Karma (operative procedure):

The non-poisonous leech is placed two inches away from the site and allowed to suck the blood. If the leech won't stick to the site, then

two-three needle pricks were given. After getting properly fixed to the site, wet gauze was placed over its body. Even if the subject complained of pain in some cases, a pinch of *Haridra* powder was sprinkled at the site of bite and the leech was taken out.

Paschat Karma (pre-operative procedures)

A piece of gauze was placed over the site of bite to avoid further bleeding, later it was banded tightly, and vital details were recorded. The step-wise procedures in *Jalaukavacharana* were done.

ASSESSMENT CRITERIA

All the subjective signs and symptoms were assessed by grading. The objective signs were assessed by applying clinical tools.

1. The size of lesion was marked on graph paper, and calculated by counting the square centimetres. It was done before, during the follow up and after the treatment.
2. Absolute eosinophil count, serum creatinine and blood urea was done before and after the treatment.

Grading for subjective signs and symptoms

1. Kandu (Pruritis)

- No *Kandu* - 0
- Kandu* present, but not disturbing routine work - 1
- Kandu* distracting patient's attention - 2
- Intolerable *Kandu* disturbing patients sleep - 3

2. Frequency of Kandu (Pruritis)

- 1 to 3 times per day - 0
- 5 to 7 times per day - 1
- 8 to 12 times per day - 2
- More than 12 times per day - 3

3. Shyavavarna (Blackish discolouration)

- Normal skin colour - 0
- Reddish discolouration - 1
- Reddish black discolouration - 2
- Blackish discolouration - 3

4. Area of distribution of Shyavavarna (Blackish discolouration)

- Area of distribution of *Shyavavarna* covers 25% - 0
- Area of distribution of *Shyavavarna* covers 50% - 1
- Area of distribution of *Shyavavarna* covers 75% - 2
- Area of distribution of *Shyavavarna* covers 100% - 3

5. Pidaka (carbuncle)

- No *Pidakas* - 0
- 1-2 *Pidakas* in one square centimetre area - 1
- 3-4 *Pidakas* in one square centimetre area - 2

More than 4 *Pidakas* in one square centimetre area - 3

6. Srava (discharge)

- No discharge - 0
- Watery discharge - 1
- Pus discharge - 2
- Pus mixed with blood - 3

7. Area of distribution of Srava (discharge)

- Area of distribution of *Srava* covers 25% - 1
- Area of distribution of *Srava* covers 50% - 2
- Area of distribution of *Srava* covers 75% - 3
- Area of distribution of *Srava* covers 100% - 4

8. Size of the lesion

The area of skin lesion was measured by counting the area of square centimetre.

9. Rookshatha (dryness)

- No *Rookshatha* - 0
- Rookshatha* present without cracks - 1
- Rookshatha* present with superficial cracks - 2
- Rookshatha* present with deep cracks - 3

10. Area of distribution of Rookshatha (dryness)

- Area of distribution of *Rookshatha* covers 25% - 1
- Area of distribution of *Rookshatha* covers 50% - 2
- Area of distribution of *Rookshatha* covers 75% - 3
- Area of distribution of *Rookshatha* covers 100% - 4

11. Daha (suppuration)

- Absence of *Daha* - 0
- Daha* present but not frequently - 1
- Daha* present frequently - 2
- Daha* present continuously - 3

12. Sleep

- Sound sleep - 0
- Disturbed due to itching / burning - 1
- Difficulty in initiating sleep irrespective of itching/burning - 2

Insomnia - 3

13. Anxiety

- No anxiety - 0
- Worries of present complaint - 1
- Anticipation of the worst - 2
- Irritability - 3

14. Depression

- No depression - 0
- Loss of pressure in hobbies - 1
- Lack of interest - 2
- Depression - 3

OBSERVATION AND RESULTS

Table 1: showing the effect of the therapy according to type of disease

Total effect of therapy	Types of Eczema	
	Wet Eczema	Dry Eczema
Cured	0	0
Markedly Improved	40%	50%
Improved	10%	0
Unchanged	0	0

Age wise distribution of the patients showed that 50% (n=20) patients were belonging to 21-30 years of age group, 20% (n=8) patients were belonging to 16-20 years of age group, 10% (n=4) patients were belonging to 51-60 years of age group and 10% (n=4) and 10% (n=4) patients were belonging to 31-40 and 41-50 years of age groups respectively. Sex wise distribution showed that 80% (n=32) patients were male while remaining 20% (n=8) patients were females. Educational status wise distribution showed that 75% (n=30) patients were graduates, 10% (n=4) patients were having primary education, 05% (n=2) patients were having secondary education, 5% (n=2) patients were illiterate and 5% (n=2) patients were post graduates.

Occupation wise distribution showed that 20% (n=8) were students, 25% (n=10) patients were business men, 10% (n=4) patients were housewives, among the remaining 20% (n=8) patients were service men's and 25% (n=10) were agriculturists. Marital status wise distribution showed that 55% (n=22) patients were unmarried and only 45% (n=18) patients were married. Socio-economic status wise distribution showed that 70% (n=28) were of middle class while 5% (n=2) and 25% (n=10) patients were upper middle class and lower middle class.

Observation on duration of the disease showed that 65% (n=22) were having 2yrs duration, 05% (n=06) were having 1yrs duration, 05% (n=04) were having 1^{1/2} yrs duration, 05% (n=02) were having 1yr 3months duration, 05% (n=02) were having 6months duration, and remaining 05%(n=02), 05% (n=02) were having 4 months and 3 months duration respectively.

Table 2: showing the overall effect of therapy

Overall Effect	Percentage
Cured	0
Markedly improved	90%
Improved	10%
Unchanged	0

Observation on type of onset of the disease showed that 70% (n=28) were having gradual onset and the remaining 30% (n=12) patients were having acute onset. Observation on the history of past illness of the disease showed that 5% (n=02) patients reported history of skin disorders, another 5% (n=02) patients reported history of allergy to metals, 20% (n=08) patients reported history of allergic rhinitis and remaining 70% (n=28) patients did not reveal any previous history of illness.

Family history wise distribution showed that 45% (n=18) patients were having family history of skin disorders, 10% (n=04) patients were having family history of Asthma and remaining 45% (n=18) patients did not reveal any family history of asthma or allergic rhinitis or skin disorders.

Habitat history wise distribution showed that 70% (n=28) patients were from *Anupa Sadharana Pradesha* and remaining 30% (n=12) patients were from *Jangala Sadharana Pradesha*. *Prakruthi* wise distribution showed that 65% (n=26) patients were of *Kapha-Pittaja Prakriti*, 20% (n=08) patients were of *Vata Pittaja Prakriti*, while 15% (n=06) patients were of *Pitta-Vataja Prakriti* and remaining 5% (n=02) patients were of *Vata-Kaphaja Prakriti*.

Abhyavaharana Shakti wise distribution showed that 70% (n=28) patients were having *Madhyama Abhyavaharana Shakti*, while 25% (n=10) patients were having *Pravara* and 05% (n=02) patients were of *Avara Abhyavaharana Shakti*. *Vyayama Shakti* wise distribution showed that 70% (n=28) were of *Madhyama Vyayama Shakti*, while 10% (n=04) patients were of *Pravara* and 20% (n=08) were of *Avara Vyayama Shakti*. *Koshta* wise distribution showed that 50% (n=20) were having *Madhyama Koshta*, while 25% (n=10) patients were having *Mrudu Koshta* and 25% (n=10) patients were of *Krura Koshta*. Diet wise distribution showed that 55%

(n=22) patients were of vegetarian diet and 45% (n=18) patients were of mixed diet.

Ahara Krama wise distribution showed that 50% (n=20) were regular, 25% (n=10) patients were irregular, 15% (n=06) were having regularly frequent diet and 10% (n=04) were of irregularly frequent diet habit.

Virudha Ahara wise distribution showed that 50% (n=20) patients were having habit of having curds in night, 25% (n=10) patients were having habit of having meat with dairy products. And rest were not having any habit of fish with milk or milk with salt. 55% (n=22) patients were having habit of simultaneous exposure to cold & hot environment, 25% (n=10) were having habit of exposure to sun or exercise immediately after heavy meals. *Virrudha Vihara* wise distribution showed that 30% (n=12) were having habit of taking cold water bath soon after exposure to hot environment and 10% (n=04) were having habit of drinking cold water soon after exposure to hot environment.

The effect (% relief) of hirudotherapy on the signs and symptoms of Eczema: *Kandu* (44%), Frequency of *Kandu* (61.2%), *Srava* (72%), Area of *Srava* (79.4%), *Rooksha* (44%), Area of *Rooksha* (58.8%), *Shyavata* (62.12%), Area of *Shyavata* (68.34%), total *Pidakas* (42%), Size of Lesion (32.26%), Sleep (78.2%), Anxiety (22%) and depression (68.56%). The same after one week follow-up showed, *Kandu* (62%), Frequency of *Kandu* (78.26%), *Srava* (84.68%), Area of *Srava* (84%), *Rooksha* (56.6%), Area of *Rooksha* (74.34%), *Shyavata* (68.02%), Area of *Shyavata* (76.14%), total *Pidakas* (88.66%), Size of Lesion (42.12%), Sleep (98%), Anxiety (88%) and depression (100%) respectively. The effect of the therapy according to type of disease is shown in table 1. The overall effect of therapy is shown in table 2.

DISCUSSION

Other than blood-letting, no other medications were given either orally or externally. The follow up study was carried out at regular interval of seven days for a period of fifteen days. The observations were recorded before the treatment and the results recorded before starting the treatment, after the treatment and after the follow up.

Probable mode of action of *Jalaukavacharana* (blood-letting using leeches):^[15]

Jalaukavacharana is mainly indicated in the *Avagadha* (deep seated) areas. The leeches are considered best in *Pittaja Vikaras* (diseases caused due to *pitta dosha*) and *Raktaja Vikaras* (diseases caused due to blood). The effect of

Jalaukavacharanais mainly because of its method of sucking and the salivary secretion hirudin. The leech sucks the impure blood directly from the capillaries and this helps in the effective removal of edema of the affected site than any other techniques of blood-letting. And the hirudin (an anticoagulant) inhibits the coagulation process and promotes fibrinolysis. Again the wound occurred due to the bite of leech stimulates mast cell accumulation and further the healing process accelerates which caused for the increased effect of hirudotherapy during the follow-up period.

CONCLUSION

Blood-letting by making use of leeches has found to be very is effective in relieving the signs and symptoms of Eczema. Thus leech therapy proved to be an effective, time saving, affordable and acceptable treatment in skin diseases, especially in Eczema. Furthermore research works can be conducted in future to evaluate the effectiveness of leech therapy in various skin disorders.

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Cite this article as:

Abhay Prakash, Arun Raj GR, Parikshit Debnath, Lalita Prasad, Sanjeev Prakash. Exploratory Study to Assess the Efficacy of Jalaukavacharana (Hirudotherapy) in the Management of Vicharchika (Eczema). Int. J. Ayur. Pharma Research 2013; 1 (3): 60-65.

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

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