



## TO REVIEW THE EFFECT OF KANDUGHNA MAHAKASHAYA IN PRURITUS

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### ABSTRACT

*Kandu* is one of the key complaints of the skin patients that force them to look for a dermatologist. Apart from sleep disturbance, it also degrades the quality of life of the patients. It is also the reason for many secondary features such as excoriation marks, lichenification etc. Many allopathic drugs are available to pacify this pathetic symptom, but they give only symptomatic relief. There is *kandughna mahakashaya*, mentioned in *Charak Samhita*, which exclusively deals with *kandu*. This review study is being done to explore more about pruritus, *kandu*, *kandughna mahakashaya* and to compare the two studies done on *kandughna mahakashaya*.

**KEYWORDS:** Kandu, kandughna mahakashaya, pruritus, Charaka Samhita.

### INTRODUCTION

In dermatological practice, itch (*kandu*) is a predominant symptom observed. Itch (*kandu*) is the presenting feature in many skin diseases for example tinea, eczema, urticaria, neurodermatitis etc. It is an undesirable condition which stimulates itching and may affect unfavourably the sleep and quality of life. Pruritus or itch, which *kandu* in *Ayurveda* is defined as an unpleasant sensation that provokes the desire to scratch.<sup>[1]</sup> However, itch as a protection mechanism will exist as long as animals and human beings have skin or fur. Acute and chronic pruritus are also common manifestations of dermatological and non-dermatological diseases. Recent epidemiological studies have revealed that chronic itch is very frequent i.e. in almost one third of the population.<sup>[2]</sup>

The purpose of the itch sensation is presumably to call attention to mild surface stimuli such as a flea crawling on the skin or a fly about to bite and the elicited signals then activate the

scratch reflex or other maneuvers that rid the host of the irritant. Itch can be relieved by scratching if this removes the irritant or the scratch is strong enough to elicit pain. The pain signals are believed to suppress the itch signals in the cord by lateral inhibitions.<sup>[3]</sup>

Regarding the patho-physiology of pruritus, it still eludes satisfactory explanation and understanding. Histamine and certain proteases (enzymes) whether introduced from outside or liberated as a consequence of antigen-antibody reaction evoke pruritus.<sup>[4]</sup> As far as neural processing of itch is concerned, it is unique somato-sensation arising from the skin and mucous membrane, but not internal organs. There are many different types of itch mediators including endogenous pruritogens released from neuronal as well as non neuronal cells (keratinocytes and immune cells), as well exogenous pruritogens from the external environment. These itch mediators activate their cognate receptors expressed by nerve endings of primary neurons. Primary sensory afferents convey itch information to secondary sensory located in the spinal cord and trigeminal dorsal horn. Here, itch information is processed by excitatory and inhibitory interneurons and possibly glial cells. Itch signals are further transmitted to the brain for additional processing. The brain is the final terminal to process itch-related neural signals from the body. Neural signals from the skin first reach the thalamus. Then these signals are further conveyed to several brain regions for giving the motor responses.<sup>[5]</sup>

### **Causes of pruritus<sup>[6]</sup>**

Pruritus can be attributed to following causes

- a. Physical and physiological (rough clothing, wool, heat, cold, dryness, humidity, unclean body, hot spicy food and alcohol).
- b. Itching dermatoses (parasitic infestations like scabies, fungal infections, dermatitis, urticaria, lichen, prurigo simplex etc).
- c. Local irritation by discharge.
- d. Systemic diseases producing itching but perhaps with no skin lesions (hepatic, renal, diabetes, anemia, senility, pregnancy, OCPs, internal malignancies).
- e. Psychogenic (neurasthenia, neurodermatitis, acarophobia, prurigo)

### **General methods to deal with the patients of pruritus<sup>[7]</sup>**

- i) One should look for the evidence of dermatoses. The patient must be completely unclothed, examined fully in natural or flourescent. The distribution of the pruritus and the nature of the lesions decide the exact etiological diagnosis.

- ii) Physical factors like heat, cold, clothing, diet etc should not be forgotten. Even if the physical factor is not the primary cause, common experience has shown that in almost all patients pruritus is aggravated by exposure to sun, change of temperature, movement of air, by a cold or hot bath and peripheral vascular dilatation resulting from the intake of alcohol and hot spicy food.
- iii) When pruritus is present without skin lesions, a complete systemic examination including rectal and vaginal examination should be undertaken alongwith an examination of the urine for sugar, albumin etc, stool test, hemogram, blood sugar, cholesterol, urea, uric acid. LFT, X-ray of chest and bones, psychiatric and emotional assessment.

#### iv) General line of treatment for pruritus

Eliminating the cause

Removing the exciting factors

Reassurance

Palliative therapeutic measures

- a) Antihistaminics.
- b) Sedative, hypnotics and transquillizers depending upon the individual need.
- c) Local soothing treatment.
- d) Steroids

Pruritus can be considered as *kandu* in *Ayurveda*. It is not mentioned as a separate entity in *Ayurveda*. It is either a symptom or a *poorvarupa* or an *updrava* or an *asadhya lakshana* of one or the other disease. Thus *kandu* has a cause and effect relation with its parent disease. If the cause goes away, the effect too goes away.<sup>[8]</sup>

As far as *doshik* involvement is concerned, *Acharya* haven't clearly mentioned about *doshas* causing *kandu*. Following analysis may throw some light on *doshik* contribution of pruritus:-

1. Vitiating of *Kapha* is known to be most important factor in causing itching. High *Kapha* leads to decreased metabolism at gut and cellular levels. This leads to the formation of *ama* or metabolic toxins, which ultimately lowers down the cellular defence mechanism and provides an environment for frequent infections. Thus *Kapha* related *kandu* includes the metabolic diseases like diabetes etc associated with itching.
2. Vitiating of *Pitta* also plays a role in itching. Raised *Pitta* reflects concealed heat in the body which in turn points towards the ongoing inflammatory process in the body. Thus

pruritus in inflammatory conditions and autoimmune skin disorders may be due vitiated *Pitta*.

3. Aggravated *Vata* leads extreme dryness in the body and may affect the nervous conduction. The irritability in skin and nerves will lead to itching. The *Vata* type of *kandu* will cover all kinds of pruritus in dry skin condition including those associated with neurological and degenerative diseases and also the dry skin occurring due to low quality and quantity of nutrition.
4. When *Vata* and *Pitta* are involved, the *kandu* may be associated with dryness and burning sensation.
5. When *Vata* and *Kapha* are involved, the *kandu* will be severe with dryness and oozing/swelling. Formation of crusts and flakes will be more in this condition.
6. When *Pitta* and *Kapha* are involved, itching is associated with signs of inflammation like redness, burning sensation and also heaviness and associated discharges due to *Kapha*.
7. When all the three *doshas* are involved, the symptoms of all the morbid *doshas* will be present in different proportions depending upon the proportion of the vitiation of the *doshas*.
8. *Srotodushti* means contamination of channels or transport system of the body. *Rasa* is directly related to *twak* or skin. The wellness and health of skin is explained in terms of *rasavaha srotodushti*. If there is *rasa dushti* or *rasavaha srotodushti*, there will be pathological changes seen in skin accordingly. Same is the case with the *rakta* and *raktavaha srotodushti*. *Kandu* is one of the main features of contaminated *rasa* or *raktavaha srotas*. *Swedavaha srotas* also plays role in the health of skin. Its *srotodushti* will hamper the perspiration and contaminants remain in the body. This leads to many skin disorders which give rise to *kandu*.
9. Certain routine related to irregularities, with special reference to *dincharya*, *ritucharya*, *vegadharana*, improper *panchkarma*, *viruddhahara*, may induce skin diseases and this may cause *kandu* in some of them.

### **Kandughna Mahakashaya**

*Kandughna mahakashaya* of *Charak Samhita* contains following drugs in it:<sup>[9]</sup>

*Chandana*, *Jatamansi*, *Karanja*, *Amaltas*, *Nimba*, *Kutaja*, *Sarshapa*, *Mulethi*, *Daruharidra* and *Nagarmotha*. Its probable mode of action can be explained as under:

**On the basis of *rasa*:** Overall *rasa* of *mahakashaya* comes out to be *tikta-kashaya*. Both these *rasa* have *Kapha-Pitta shamak* effect. Since *kandu* is *Kapha pradhana vyadhi/symptom* with some component of *Pitta*, so this *kashaya* may help to alleviate related *doshas*.

**On the basis of *guna*:** Common *guna* present in the *mahakashaya* are *laghu* and *ruksha*. Both these *guna* are related to *vayu* and *akasha mahabhoota*. Action of these *mahabhoota* are against *prithvi* and *jala mahabhoota*, which ultimately decreases *Kapha* thus help in relieving *kandu*.

**On the basis of *veerya*:** Out of 10 ingredients of *kandughna mahakashaya*, 7 are of *sheeta veerya* and this would have *Pitta shamak* effect as *Pitta* also play a part in *kandu*.

**On the basis of *vipaka*:** Regarding *vipaka*, out of 10 drugs, 8 drugs have *katu vipaka* and two have *madhura vipaka*. This *katu vipaka* has *Kaphashamak* effect which relieves *kandu*. *Madhur vipaka* has got soothing effect on the body.

**On the basis of *Dosha-prabhava*:** All the drugs together have *tridoshaghna* action mainly *Kapha-Pittahara* and *Kapha-Vatahara*, along with *Rakta-prasadana*, *medo-lekhana*, *kushthaghna*, *shoth-hara* action etc. Thus the drug which was used in the trial not only relieves *kandu* but also was having exact combination of properties, which enable it to counteract the disease process especially manifestation of vitiated *Kapha*.<sup>[10]</sup>

If we study the pharmacological properties of the ingredients of the *kashaya* then we find certain important properties regarding effects on itch. Their description is as follows

1. *Chandana* has got diaphoretic/cooling property which allays pruritus. It has got essential oils with antibiotic and antifungal properties.<sup>[11]</sup>
2. *Amaltasa* is a good emollient with anti-inflammatory and anti-pruritic effects.<sup>[12]</sup>
3. *Karanja* has got anti-bacterial and wound healing properties.<sup>[13]</sup> Its oil is used in Scabies, Herpes, Leucoderma and other cutaneous disorders. Aqueous extract of stem bark shows significant sedative and antipyretic effect in rats.<sup>[14]</sup>
4. *Kutaja*'s bark has astringent and anti-helminthic property and useful in many skin disorders.<sup>[15]</sup>
5. *Mulethi* has anti-microbial, anti-oxidant and anti-allergic properties.<sup>[16]</sup> Its topical preparations containing glycyrrhetic acid are used for herpes, eczema and psoriasis.<sup>[17]</sup>

6. *Mustaka* has astringent and diaphoretic qualities.<sup>[18]</sup> Beta-sitosterol, isolated from the tubers, exhibits significant anti-inflammatory activity against carrageenan and cotton pellet-induced edema in rats, the activity is comparable to hydrocortisone and phenylbutazone when administered intra-peritoneally.<sup>[19]</sup>
7. *Daruharidra* has astringent, diaphoretic<sup>[20]</sup> and anti-inflammatory-antibiotic properties due to alkaloid berberine.<sup>[21]</sup>
8. *Sarshapa* has got anti-microbial effects.<sup>[22]</sup> It acts as a counter-irritant and increases blood flow to a specific area.<sup>[23]</sup>
9. *Jatamansi* is helpful in dermatitis, psoriasis, itching dermatoses and has mind-relaxing effect.<sup>[24]</sup>
10. *Nimba* has anti-inflammatory, anti-helminthic and anti-fungal properties.<sup>[25]</sup>

## STUDIES' REVIEW

In this article, effect of *kandughna mahakashaya* is being studied. *Kandughna mahakashaya* is given under palliative care in the patients suffering from itching dermatoses:

- *Kshudra kushtha*... Mishra et al, 2007.
- *Udarda*.... Sharma et al, 2017.

Concise information regarding two studies is as follows

- 1) Mishra et al has conducted study to prove whether the drug *kandughna mahakashaya* is effective in relieving the *kandu* in patients of itching dermatoses.

Total 24 patients were selected for this study and studied under a single group. The decoction of *kandughna mahakashaya* was given to all patients in a dose of 10 ml BD for 1 month. Out of 24 patients, 4 were dropped out while 20 turned for the follow up. Grading of *kandu* was done on the basis of frequency of itching and intensity of itching.

S. No.	Itching	Mean Grades		Percentage relief	SD (+/-)	SE	t	P
		BT	AT					
1.	Frequency	2.45	0.1	95.92	2.4815	0.5549	4.235	<0.001
2.	Intensity	2.7	0.1	96.30	2.8654	0.6407	4.058	<0.001

Overall effect of therapy shows that complete remission was observed in 90% of patients and in 10% of patients, marked improvement was noticed.<sup>[26]</sup>

- 2) Sharma et al selected 10 patients of *udard* (urticaria) and they were given *kandughna mahakashaya ghan vati* in a dose of 500mg TID for the duration of 45 days.<sup>[27]</sup>

Effect of *kandughna mahakashaya ghan vati* on *kandu* is as follows

	N	Mean	Percentage Relief	SD	SE	T	P
Intensity	10	1.8	64.996	0.632	0.2	9	<0.001
Frequency	10	1.4	54.998	0.699	0.221	6.332	<0.001

Overall effect of *kandughna mahakashaya ghan vati* is *Kapha* and *Pitta shamak*, hence it is useful in normalizing *doshas* involved in *udarda*.

On comparing the two studies, it has been found that when *kandughna mahakashaya* was given as decoction, it has shown better results. In case of intensity, although results were highly significant in both the trials but the percentage relief (96.30) due to *mahakashaya* decoction was more than that in case of *ghan vati* (64.996%). Similarly percentage relief in case of frequency is recorded more with the use of *kandughna mahakashaya* decoction in comparison to *ghan vati*.

## CONCLUSION

Though every formulation has its own utility, but when we compare the two studies with reference to the use of *kandughna mahakashaya* as a decoction and *ghan vati*, we get better and promising results with decoction formulation. This may be due less heat treatment during processing, thus more active principles present in *kwath*. Again if we consider absorption then, it is much better in case of *kwath* as in comparison to *ghan vati*. Lastly, most of the time *kwath* is taken in right dose, whereas in *ghan vati*, it may be blended with *churan* sometimes so dose of active principles is lesser.

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