



Research Article

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Pharmaceutical and Therapeutical Study of Stree Kutaja Taila With Special Reference to Autoimmune Skin Disorders

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Abstract

Sneha kalpana is one of the pharmaceuticals which are used extensively in the field of Ayurveda for various disorders. It is one of the widely used techniques in Ayurvedic industries to achieve solubility of both fat- and water-soluble extractive into lipid medium through Agni paka as well as Adithya paka. Adithya paka is the method of taila paka where the taila yoga is prepared by exposing it into sunlight. There is very minimum reference regarding procedure of adithya paka which are scattered in classics. Among those tailas Stree Kutaja taila is been used widely in clinical practice for all type of skin disorders especially those which is caused by autoimmune malfunctioning. The properties of Stree Kutaja and Narikela taila helps in alleviating skin diseases where the Adithya paka Samskara will enhance the efficacy of taila. This paper consists of detailed procedure of Stree kutaja taila preparation and therapeutic action on autoimmune skin disorders with its probable mode of action

Keywords: Adithya paka, Stree Kutaja, Autoimmune skin disorders.

INTRODUCTION

Sneha Kalpana in Ayurveda is the processing of Sneha Dravya like Taila, Ghrita, Vasa and Majja to transform them into more suitable forms acceptable by the body. In the preparation of Sneha Kalpana many components such as Kalka Dravya, Sneha Dravya and Drava Dravya are included. These components when used in prescribed proportions and when prepared according to the standard operative measures tend to make the Sneha Dravya therapeutically active ^[1].

The Sneha dravya is taken as media to extract lipid soluble substances into Sneha. And the Water-soluble components can also be extracted in to it as Drava dravya (liquid substances) are also used as a component while preparing medicated Ghee or Taila.

The taila used for external application is prepared mainly using Tila taila or Narikela taila. There are many references of Taila which is especially explained under Kushta adhikara in Various samhithas an classical book of Ayurveda.

Among them many of the Tailas are prepared as per the general method of preparation by Agni siddha method. Few of the Tailas are prepared by Adithya paka method (using sunlight). But there is no reference regarding general method of preparation regarding Adithya paka.

Review on (Stree Kutaja) *Wrightia tinctoria* ^[2]

This plant is a small and deciduous tree which has milky latex, scaly, smooth and ivory colored bark, with acute or rounded base and acuminate at base and belongs to Apocynaceae family. The leaves yield a blue dye called pala indigo. This plant is being used as a traditional medicine in various disorders including skin disorders such as Psoriasis and other autoimmune skin disorders which is supported by recent research works. The plants have phyto constituents such as lipids, saponins tannins, alkaloids, phenols, steroids, flavonoids, glycoflavones-iso-orientin and phenolics acid will contribute to achieve therapeutic effects.

Review of Adithya Paka

There is no direct method of preparation of taila by Adithya paka method. But few of the yogas has been explained under Kushta Adhikara in Bhaishajya ratnavali, Chakradatta and API and other classical books of Ayurveda.

Adithya paka is a method where the taila along with other aushadha dravya are exposed to sunlight for certain duration till all active principles of drugs are dissolved in Taila. Which can be understood by certain taila yogas explained in classics such as Kushta rakshasa taila [3], Adithya Paka Taila [4]. But as such siddhi lakshana is not mentioned for Adithya paka in the classics.

The main intension of Adithya paka is preparation using the lesser temperature and the drugs having volatile principles, thermo labile drugs and Rasoushadhis.

The Taila absorbs UV radiation from the sunrays, Where the UV radiation has major role on skin disorders. The recent research has shown that the UV radiation has positive effects on Autoimmune Skin Disorders Such as Psoriasis [5]. Hence, this method may add more therapeutical values to taila and helps in better absorption and action especially in skin disorders of Autoimmune disorders.

Review on Auto immune Skin disorders [6]

The malfunctioning and breakdown of immune systems could be caused by a sudden inability to distinguish between self and non self or by a misinterpretation of self- component as a dangerous, causing an immune system to attack on host tissues. This condition is called auto immunity. An Auto immunity reaction is a process where antibodies are directed to attack the body's own tissue by producing auto antibodies. This auto immunity may result in autoimmune diseases with impaired physiological function. The exact cause of this is not known but the risk factors may include genetic factors, infections, hormones and drugs.

This type of Auto immune reaction may affect Joints, Nervous system, Skin, Major organs of the body and may lead to disorders such as Rheumatoid arthritis, Psoriasis, Systemic lupus erythematosus, Multiple sclerosis, Insulin- dependent diabetes etc.

Auto immune disorders involving skin such as Psoriasis, Bullous pemphigoid, Pemphigus vulgaris, Systemic Lupus Erythematosus, Scleroderma etc may affect both physical and mental health of the patients.

Psoriasis [7]: Psoriasis is one of the most common dermatologic diseases, affecting up to 1% of the world's population. It is a chronic inflammatory skin disorder clinically characterized by erythematous, sharply demarcated papules and rounded plaques, covered by silvery micaceous scale. The skin lesions of psoriasis are variably pruritic. Traumatized areas often develop lesions of psoriasis (Koebner or isomorphic phenomenon). Additionally, other external factors may exacerbate psoriasis including infections, stress, and medications (lithium, beta blockers, and antimalarials).

Lichen Planus [8]: It is a papulo squamous disorder that may affect the skin, scalp, nails, and mucous membranes. The primary cutaneous lesions are pruritic, polygonal, flat-topped, violaceous papules. Close examination of the surface of these papules often reveals a network of gray lines (Wickham's Streeae). The skin lesions may occur anywhere but have a predilection for the wrists, shins, lower back, and genitalia.

Involvement of the scalp, lichen planopilaris, may lead to scarring alopecia, and nail involvement may lead to permanent deformity or loss of fingernails and toenails. It commonly involves mucous membranes particularly buccal mucosa.

Bullous Pemphigoid [9]: Bullous pemphigoid is a polymorphic autoimmune sub epidermal blistering disease usually seen in the elderly. Initial lesions may consist of urticarial plaques; most patients eventually display tense blisters on either normal-appearing or erythematous skin. The lesions are usually distributed over the lower abdomen, groin, and flexor surface of the extremities; oral mucosal lesions are found in some patients.

MATERIALS AND METHOD

Pharmaceutical Study of Stree Kutaja Taila [10]

In the preparation of Adithya paka Streekutaja taila, Narikela taila and Streekutaja Patra is used as a kalka dravya in the ratio of 2:1 (coconut oil:Stree Kutaja Patra).

Collection of Stree Kutaja Patra

Fresh and mature leaves of *Wrightia tinctoria* is collected from the Herbal garden of SDM College of Ayurveda, Udupi. They are cleaned properly to remove dust and other impurities if any.

Procedure

- Collected leaves of *Wrightia tinctoria* are chopped into small pieces.
- The fresh coconut oil is taken in stainless steel vessel
- The chopped leaves are added to the Coconut oil and mixed properly
- Then the vessel was kept under sunlight for 8 hours per day with occasional agitation
- The same procedure is continued till 7 days and changes in the colour, smell of taila was observed daily
- On 8th day the taila is filtered through clean cloth and stored in air tight container.

RESULT

The Stree Kutaja taila was observed daily till 7 days for its colour change, Smell, consistency and other findings if any. The observations are mentioned in the table 2 and the figures are mentioned in fig 1 to fig 7.

DISCUSSION

Therapeutic effect of Stree Kutaja taila in Auto immune Skin disorders

Stree Kutaja (*Wrightia tinctoria*) leaves are rich in various types of the phytochemicals and phyto constituents which contributes in correcting impaired immune system. Studies have proved that it has best immune modulatory action in various auto immune disorders such as Psoriasis, Bullous pemphigoid, Pemphigus vulgaris. The ethanolic extract of leaves has shown positive results in these type of disorders [11]. The clinical studies also revealed that exposing the body to morning sunlight after oral administration of leaves extracts with coconut oil has great results in reducing itching, scaling and curing the lesions in a duration of 3-6 months [12]. Since the ancient period the coconut has been used as a best remedy for skin disorders, and it is proved by various researches that it has immuno modulatory action [13].

There are many proved clinical cases in which both internal and external administration of taila as a shaman sneha helped in curing the Psoriasis [14].

Table 1: Ingredients used for the preparation of Stree Kutaja taila by adithya paka method

Ingredients	Quantity
Narikela taila (Coconut Oil)	100ml
Sthri Kutaja Pathra (Wrightia tinctoria)	50g

Table 2: Colour changes of Stree Kutaja taila from day 1 to day 7

Day	Observations	Colour of Taila
1	<ul style="list-style-type: none">• Colour of leaves were green• Colour of coconut oil changed from transparent to blue• Odour of coconut oil is not changed.	Dark state Blue colour
2	<ul style="list-style-type: none">• Leaves were completely dipped in taila• Colour of leaves started to change• Oil colour changed to Ink Blue• Mild odour change of coconut oil was perceived	Indigo colour
3	<ul style="list-style-type: none">• Leaves became light brownish• Colour of taila became violet• Pungent odour of was perceived	Violet colour
4	<ul style="list-style-type: none">• Leaves became brownish• Colour of taila became purple• Pungent odour of taila was perceived	Purple colour
5	<ul style="list-style-type: none">• Leaves became dark brown• Colour of taila became Dark purple with maroon tinged• Pungent odour of taila was perceived	Dark purple with maroon tinged
6	<ul style="list-style-type: none">• Leaves became dark brown and little crispy• Colour of taila became Dark maroon with purple tinged• Pungent odour of taila was perceived	Dark maroon with purple tinged
7	<ul style="list-style-type: none">• Leaves became dark brown and crispy• Colour of taila Dark purple• Pungent odour of taila was perceived	Dark Purple



Figure 1: Colour of taila on day 1

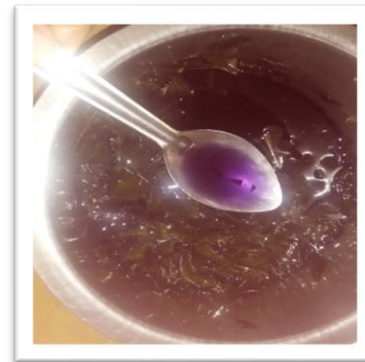


Figure 3: Colour of taila on day 3

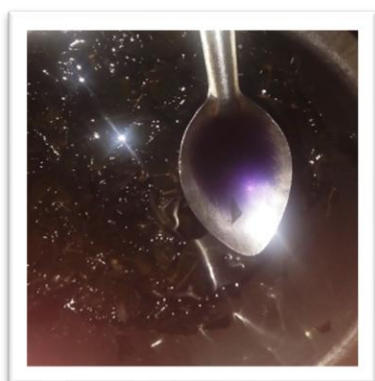


Figure 2: Colour of taila on day-2

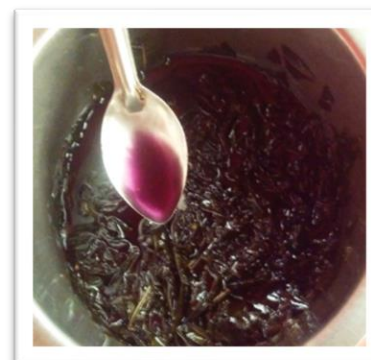


Figure 4: Colour of taila on day 4

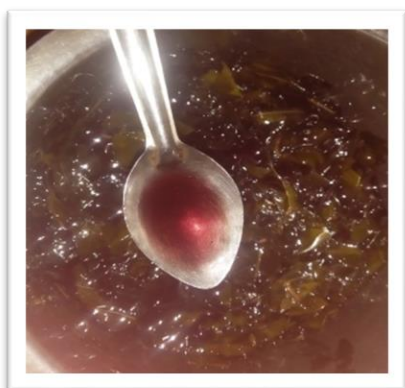


Figure 5: Colour of taila on day 5

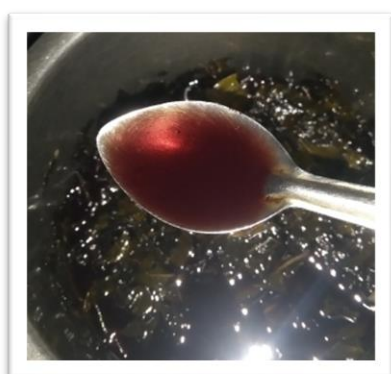


Figure 6: Colour of taila on day 6



Figure 7: Colour of taila on day 7

CONCLUSION

The Stree Kutaja taila is a wonderful combination of properties and actions of *Wrightia tinctoria* which is prepared by the Adithya paka Samskara with Narikela taila as a base enhances the Guna and Veerya of the the taila hence exhibiting promising action on Auto immune skin disorders both internally and externally which is proved by many research works which are already done over the same.

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