



Review Article

CRITICAL ANALYSIS OF KANAKA TAILA IN VYANGA

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ABSTRACT

A blemish free, even-toned skin is typically linked with healthy skin. *Vyanga* is one of diseases of skin that reduces the aesthetic worth of face to an extent. It is characterized by the presence of *Niruja* (painless), *Tanu* (light) and *Shyava varna mandala* (bluish black patches) on face. Although it is not a serious illness but it causes skin discoloration which stays on the face for a long time. In the era of competition, appearance of an individual gives self-confidence and linked with social status. On the contrary, *Vyanga* impact on individual's psychological state and social relationship. The disease *Vyanga* can be correlated with hyperpigmentation with special reference to *Melasma*. Topical application is additional useful in *Twaka Roga* (skin disorder) as it directly acts on lesion and simple to use. *Kanaka Taila* is a classical Ayurvedic skin oil formulation described in *Chakradatta* in the chapter named "*Kshudra Roga*" indicated in *Abhiru, Nilika & Vyanga*. It is useful in the treatment of oral diseases and to relieve skin scars and hyperpigmentation on the face. It also has *mukhakantikar* effect. This article reviews properties of various ingredients of *Kanaka Taila* which could help address *Vyanga* and its probable mode of action based on ayurvedic literature.

INTRODUCTION

Face is one of the most fundamental parts of human body which contribute in self-recognition. Since decades, a fair complexion is a desirable component and indigenous criteria for beauty. *Vyanga* is one of the most common diseases as regards the face is concerned. *Vyanga* is derived by the root words- *Vi + Anga*. *Vi* refers to *Vikruta* (defectiveness) and *Anga* means part of the body, together termed as *Vigatamangam yasya* or *Vikala anga*^[1]. It comes under *Kshudra roga*^[2], but it has got a major importance as a cosmetic problem in the society.

Aacharya Charaka has mentioned *Vyanga* as a disease caused by suppression of *Chardi vega*^[3]. The aggravated *Vata* and *Pitta dosha* along with *Rakta* are responsible for its manifestation^[4].

As per *Aacharya Vagabhata*, *mansik nidana* like *Shoka*, *Krodha* etc are also contributing factor in the disease *Vyanga*^[5]. *Vyanga* affects the second layer of *Twak* (skin) i.e., *Lohita*^[6]. It is mainly caused by the vitiation of *Vata & Pitta dosha*, followed by *Rakta dhatu*. It is considered as a *Rakta Pradoshaja Vyadhi*^[7] as it is characterized by the presence of painless, thin, brown/bluish black patches on face^[8].

According to *Vagbhata*, it appears with assorted symptoms on the basis of *Doshika* participation like *Parusha* (roughness), *Parushasparsha* (rough on touch), *Shyava varna* (dark brown color) due to *Vatadosha*, *Tamra varna* (coppery color), *Nila varna* (bluish color) due to *Pitta dosha*, *Shveta varna* (whitish colour) with *Kandu* (itching sensation) due to *Kapha dosha*^[5].

The management of *Vyanga* includes both *Shodhana* and *Samana chikitsa*. The *Samana chikitsa* include both external applications and internal medications like *Lepa* (external application), *Siravyadha* (bloodletting), *Abhyanga* (oil massage), *Nasya* (nasal errhine), *Pana* (drink), *Vamana* (emesis), *Virechana* (purgation) and *Udwartana* (powder massage)^[9-10].

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Kanaka Taila is an oil formulation indicated in *Abhiru, Nilika & Vyanga* in *Chakradatta* in *Kshudraroga Adhikara* and also has *mukhakantikara* effect^[11]. It contains *Madhuka, Priyangu, Manjistha, Rakta Chandana, Utpala, Nagakesara, Tila Taila*. All ingredients of *Kanaka Taila* act as *Varnya* directly or indirectly and aids in skin lightening, thus helps in overcoming *Vyanga*. *Kanaka Taila* is also described by *Bhaishajya Ratnavali*^[12], *Gada Nigraha*^[13] and *AFI*^[14].

MATERIALS AND METHODS

Electronic database, 'Google scholar', PubMed, SCOPUS has been searched for relevant studies and review publications. The key words used for search are '*Kanaka Taila*' in *Vyanga, Nilika*, etc. Abstracts and full texts of open access in English language were only considered.

Table 1: Ingredients of Kanak Taila

S.No.	Ingredients	Rasa	Guna	Virya	Vipaka	Karma
1	<i>Madhuka</i> ^[15]	<i>Madhura</i>	<i>Guru, Snigdha</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Varnya, Kandughana, Charma rogahara</i>
2	<i>Priyangu</i> ^[16]	<i>Tikta, Kasaya, Madhura</i>	<i>Guru, Ruksha</i>	<i>Sheeta</i>	<i>Katu</i>	<i>Charma rogahara</i>
3	<i>Manjistha</i> ^[17]	<i>Tikta, Kasaya, Madhura</i>	<i>Guru, Ruksha</i>	<i>Ushna</i>	<i>Katu</i>	<i>Varnya, Kusthaghana</i>
4	<i>Rakta chandana</i> ^[18]	<i>Tikta, Madhura</i>	<i>Guru, Ruksha</i>	<i>Sheeta</i>	<i>Katu</i>	<i>Charma rogahara</i>
5	<i>Utpala</i> ^[19]	<i>Madhura, Kasaya, Tikta</i>	<i>Laghu, Snigdha, Picchil</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Varnya</i>
6	<i>Naga kesara</i> ^[20]	<i>Kasaya, Tikta</i>	<i>Laghu, Ruksha</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kusthaghana</i>
7	<i>Tila Taila</i> ^[21]	<i>Madhura</i>	<i>Guru, Snigdha</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Twak Snehan</i>

Madhuka (Glycyrrhiza glabra)

Glycyrrhiza glabra (Family- Leguminosae) is a perennial herb attaining a height up to 2m. It is distributed in sub-tropical and warm temperate regions of the world^[22].

Synonyms: *Yastimadhu, Kleetaka, Licorice, Sweet wood.*

Part used: Root

Doshagnata: *Vata-Pitta shamaka*

Ayurvedic Pharmacological Properties of *Glycyrrhiza glabra*

The drug is *Madhura* in *Rasa*, *Guru* and *Snigdha* in *Guna*, *Sheeta* in *Virya* and *Madhura* in *Vipaka*, thus pacifying *Vata dosha* due to its *Madhura rasa* and *Guru, Snigdha guna* and pacifies *Pitta Dosha* due to its *Madhura Rasa* and *Sheeta Virya*^[15]. In *Charak Samhita*, *madhuka* is mentioned under *Varnya Mahakashaya*^[23]. Its many therapeutic actions include *Varnya* (skin repairing), *Kushthaghna* (Skin disorders), *Keshya* (hair growth property), *Kanthya* (speech promoting and useful in throat disorders like cough etc.), *Shonitasthapana* (bleeding disorders) and *Rasayana* (promoting overall body health)^[24].

Table 2: Madhuka in various Nighantus

<i>Madhuka</i>	<i>Bhavaprakash Nighantu</i> ^[25]	<i>Dhanvantari Nighantu</i> ^[26]	<i>Raj Nighantu</i> ^[27]
Varga	<i>Haritkyadi Varga</i>	<i>Guduchyadi Varga</i>	<i>Pippalyadi Varga</i>
Rasapanchak	<i>Madhura rasa, Guru, Snigdha, Sheeta Virya, Pitta-Vaat shamak</i>	<i>Madhura Rasa, Sheeta Virya, Pittaghna</i>	<i>Madhura Rasa, Kinchit Tikta, Sheeta Virya</i>
Karma	<i>Chakshusya, Bala-Varna krut, Keshya, Shukrala, Swarya</i>	<i>Vrishya, Shoshkshayahar, Visha-chardi vinashni</i>	<i>Chaksusya, Ruchyam, Shosh trishna vrana aphan</i>

Chemical Composition of *Glycyrrhiza glabra*

More than 400 phytochemicals have been isolated from the *G.glabra* such as triterpene (*Glycyrrhizin*), saponin (*glycyrrhizic acid*), flavonoids (*glabridin*), polysaccharides etc^[28]. The active ingredients found to have tyrosinase inhibiting activity are, *glabrene*, *isoliquiritigenin*, *licochalcone A*, and *liquiritin*^[29]. *Liquiritin* and *isoliquirtin* act as melanin disperser or removal of epidermal melanin^[30]. *Glabridin* has been shown to scavenge ROS, inhibit UVB-induced pigmentation and tyrosinase without affecting DNA synthesis, and possess anti-inflammatory properties^[31].

Pharmacological actions: Smooth muscle depressant, anti-microbial, hypolipidemic, antioxidant, anti-inflammatory, anti-ulcer, antipyretic, expectorant.

Priyangu (*Callicarpa macrophylla*)

Callicarpa macrophylla (Family-Verbenaceae) is an erect shrub about 1.25-2.5 m high in the sub-tropical climatic zone of the country^[32].

Synonyms: *Phalini, Mahilahavya, Vishvakasenangana*

Part Used: Flower, fruit, leaf, root.

Doshagnata: *Tridosha shamaka*

Ayurvedic Pharmacological Properties of *Callicarpa macrophylla*

The drug is *Tikta, Kasaya, Madhura* in *Rasa, Guru* and *Ruksha* in *Guna, Sheeta* in *Virya* and *Katu* in *Vipaka*, thus pacifying *Tridosha*. Its many therapeutic actions include *Durgandhanashan, Vednasthapana, Dahaprashmana* and *Twaka doshahara*.

Table 3: Priyangu in various Nighantu

Priyangu	Bhavaprakash Nighantu^[33]	Dhanvantari Nighantu^[34]	Raj Nighantu^[35]
Varga	<i>Karpooradi Varga</i>	<i>Chandanadi Varga</i>	<i>Chandanadi Varga</i>
Rasapanchaka	<i>Tikta & Kashaya Rasa, Sheeta Virya, Vata-Pitta Shamaka</i>	<i>Tikta Rasa, Sheeta Virya</i>	<i>Tikta Rasa, Sheeta Virya</i>
Guna-Karma	<i>Rakta atisara nashak, Daurgandhyahar</i>	<i>Moha-daha vinashni, Jwara-Vanti hara</i>	<i>Vakrajadya vinashni, Vaanti-bhranti jwarahara</i>

Chemical Constituents

The phytochemical screening of the plant revealed the presence of different type of chemical like seeds contain oleonic acid. Besides diterpenoids, leaves contain flavonoids (β - sitosterol, ursolic acid, luteolin and apigenin), C22-C24 fatty acids, Calliterpenone monoacetate and Calliterpenone isopropylidene derivative^[36]. The content of luteolin increased gradually with the growth of plants and reached the peak at the end of growth period^[37].

Pharmacological actions: Anti-inflammatory, Analgesic

1. Manjistha (*Rubia cordifolia*)

Rubia cordifolia (family-Rubiaceae) is a perennial, prickly climber with a stem, growing up to 12 m long^[38].

Synonyms: *Samanga, Raktanga, Indian madder*

Part Used: Root

Doshagnata: *Kapha-pitta shamaka*

Ayurvedic Pharmacological Properties of *Rubia cordifolia*

The drug is *Tikta, Kasaya, Madhura* in *Rasa, Guru* and *Ruksha* in *Guna, Ushna* in *Virya* and *Katu* in *Vipaka*, thus pacifying *Kapha-Pitta*. Its many therapeutic actions include *Raktashodhaka, Kusthagna, Varnya, Rasayana* and *Vishagna*.

Table 4: Manjistha in various Nighantu

Manjistha	Bhavaprakash Nighantu^[39]	Dhanvantari Nighantu^[40]	Raj Nighantu^[41]
Varga	<i>Haritkyadi Varga.</i>	<i>Guduchyadi Varga</i>	<i>Pippalyadi Varga</i>
Rasapanchaka	<i>Madhura, Tikta & Kashaya Rasa, Guru, Ushna Virya</i>	<i>Madhura- Kashaya Rasa, Ushna Virya</i>	<i>Madhura- Kashaya Rasa, Ushna Virya</i>
Karma	<i>Swara-varna krut, Rakta atisara nashak, Kushtaghna, Rakta Vikar, Visarpa, Vrana & Meharogahar</i>	<i>Used in Kapha vikara, Ugra Vrana, Meha, Raktavikar, Visha & Netraroga</i>	<i>Vrana-meha-jwara-visha-netraamaya aham</i>

Chemical constituents: Quinones, terpenoids, alkaloids and their derivatives form a major class of compounds with considerable bioactivities. These components show various antioxidation, anti-inflammation and anti-proliferative bioactivities. Purpurin is one such anthraquinone that gives *R. cordifolia* antioxidant properties^[42].

Pharmacological actions: Antioxidant, antibacterial, anti-inflammatory, anti-lipid peroxidative activity, anti-viral.

Raktachandana (*Pterocarpus santalinus*)

Pterocarpus santalinus (Fabaceae family) is a small tree, growing upto 8 meters (26 feet) tall grown on the shale sub-soils, semi-arid climatic at altitudes around 750 metres (2,460 ft), in Talakona forest, in Chittoor District of Andhra Pradesh^[43].

Synonyms: *Laal Chandan, Rataanjali, Red sanders*

Part Used: Heart wood

Doshagnata: *Kapha-Pitta shamaka*

Ayurvedic Pharmacological Properties of *Pterocarpus santalinus*

The drug is *Tikta, Madhura* in *Rasa*, *Guru* and *Ruksha* in *Guna*, *Sheeta* in *Virya* and *Katu* in *Vipaka*, thus it is *Kapha-Pitta shamaka*. Its many therapeutic actions include *Raktashodhaka, Vishagna, Dahaprashmana* and *Sthambak*.

Table 5: Raktachandana in various Nighantu

<i>Raktachandana</i>	<i>Bhavaprakash Nighantu</i> ^[44]	<i>Dhanvantari Nighantu</i> ^[45]	<i>Raj Nighantu</i> ^[46]
Varga	<i>Karpooradi Varga.</i>	<i>Chandanadi Varga</i>	<i>Chandanadi Varga</i>
Rasapanchaka	<i>Madhura- Tikta Rasa, Guru, Sheeta Virya</i>	<i>Tikta Rasa, Sheet Virya</i>	<i>Ateev Sheetalam, Tikta Rasa, Pitta-kapha aham</i>
Guna-Karma	<i>Netra hitam, Vrishyam Used in Jwara, Vrana & Visha, Chardi, Trishna, Raktapitta</i>	<i>Rakshogna, Used in Rakta-Pitta</i>	<i>Kapha Kasa Vami Jita, Trishaapham</i>

Chemical Constituents

The main chemical components of *Pterocarpus santalinus* extracts are phenols, alcohols, ethers, ketones, polysaccharides and fatty acids^[47].

Pharmacological actions: Anti-inflammatory, Anti-bacterial, Anti-pyretic, Anti-androgenic

Utpala (N. stellata)

N. stellata (Family- Nymphaeaceae) is commonly known as Indian blue water lily. *N. stellata* is a perennial aquatic rooting herb, wild / cultivated, generally found in tanks and ponds throughout the warmer parts of India, particularly the Eastern Ghats^[48].

Synonyms: *Kumud, Indian blue water lily.*

Part Used: Root, flower, seed

Doshagnata: *Vata-Pitta shamaka*

Ayurvedic Pharmacological Properties of *N. stellata*

The drug is *Tikta, Madhura, Kashaya* in *Rasa*, *Laghu* and *Snigdha* in *Guna*, *Sheeta* in *Virya* and *Madhura* in *Vipaka*, thus it is *Vata-Pitta shamaka*. Its many therapeutic actions include *Medhya, Dahaprashmana* and *Vishaghna*.

Table 6: Utpala in various Nighantu

<i>Utpala</i>	<i>Bhavaprakash Nighantu</i> ^[49]	<i>Dhanvantari Nighantu</i> ^[50]	<i>Raj Nighantu</i> ^[51]
Varga	<i>Pushpa Varga</i>	<i>Karveeradi Varga</i>	<i>Karveeradi Varga</i>
Rasapanchaka	<i>Madhura Rasa, Sheet Virya, Snigdha, Picchila</i>	<i>Madhura- Kashaya Rasa, Sheet Virya, Pitta shamaka</i>	<i>Madhura Rasa, Sheet Virya, Pitta nashkrut</i>
Karma	-	-	<i>Sugandhi, Ruchyam, Keshyam, Rasayan</i>

Chemical constituents: The flowers of plant contain flavonoids, gallic acid, astrgalin, quercetin, and kaempferol. *N. stellata* also contain Vitamin E^[52].

Nagkesara (Mesua ferrea)

Mesua ferrea linn. (Family Guttiferae) is an evergreen medium to large-sized ornamental plant. It is a medium-sized plant long up to 13 mm.

Synonyms: *Nagpushpa, Champeya*

Part Used: Stamen

Doshagnata: *Kapha-Pitta shamaka*

Ayurvedic Pharmacological Properties of *Mesua ferrea*

The drug is *Tikta*, *Kashaya* in *Rasa*, *Laghu* and *Ruksha* in *Guna*, *Ushna* in *Virya* and *Katu* in *Vipaka*, thus it is *Kapha-Pitta shamaka*. Its many therapeutic actions include *Vednasthapana*, *Durgandha nashana*, *Shonitasthapana*, *Kusthagna* and *Vishaghna*.

Table 7: Nagkesara in Various Nighantu

<i>Nagkesara</i>	<i>Bhavaprakash Nighantu</i> ^[53]	<i>Kaiyadev Nighantu</i> ^[54]	<i>Dhanvantari Nighantu</i> ^[55]
Varga	<i>Karpuradi Varga</i>	<i>Aushadhi Varga</i>	<i>Shatpushpadi Varga</i> .
Rasapanchaka	<i>Kashaya Rasa, Ushna Virya, Ruksha, Laghu</i>	<i>Kashaya, Ushana Veerya, Teekshana, Laghu, Ruksha</i>	<i>Alpa Ushana, Laghu, Tikta, Kapha Shamaka</i> .
Karma	<i>Aama pachana, Daurgandhyahar</i> Used in <i>Kushta, Visarpa</i>	<i>Aama pachan</i>	<i>Kandughna, Shophnashnam</i>

Chemical constituents: Mesuferrone- A and B, Mesuaferrol, Mesuanic acid.

Pharmacological actions: Antioxidant, Hepatoprotective, Analgesics, Antispasmodic, Immunomodulatory, Anti-inflammatory, Antimicrobial.

Tila (Sesamum indicum)

An erect, glandular-pubescent, annual herb up to 95cm tall, branching from the base. It is cultivated throughout India upto an altitude of 1200 m.

Part Used: Root, leaf, seed, oil.

Doshagnata: *Tridoshagna*

Ayurvedic Pharmacological Properties of *Sesamum indicum*

The drug is *Madhura* in *Rasa*, *Kashaya*, *Tikta* in *Anurasa*, *Guru* and *Snigdha* in *Guna*, *Ushna* in *Virya* and *Madhura* in *Vipaka*, thus it is *Tridoshagna*. Its many therapeutic actions include *Vedanasthapana*, *Vrana shodhana*, *Keshya*, *Twachya*.

Table 8: Tila in Various Nighantu

<i>Tila</i>	<i>Bhavaprakash Nighantu</i>	<i>Kaiyadev Nighantu</i>	<i>Raj Nighantu</i>
Varga	<i>Dhanya Varga</i>	<i>Dhanya Varga</i>	<i>Shalyadi Varga</i>
Rasapanchaka	<i>Madhura, Katu, Tikta Rasa, Guru, Snigdha, Ushana Virya, Madura Vipaka</i>	<i>Katu, Tikta, Madhura, Kashaya Rasa, Guru, Snigdha, Ushana Virya, Katu Vipaka</i>	<i>Madhura Rasa, Guru, Snigdha, Ushana Virya, Katu Vipaka</i>
Karma	<i>Balya, Keshya, Twachya, Stanya, Vrana hitam</i>	-	-

Chemical constituents: Sesamin, sesamol, Vit A, B, C.

Pharmacological actions: Antioxidant, free radical scavenging activity.

DISCUSSION

Vyanga is a skin disease that comes under *Kshudra roga*. Hence the factors like *Vataprakopaka*, *Pittaprakopaka* and *Raktadushtikara Nidana* are the main causative factors for the disease *Vyanga*. *Manasika nidana* (psychological factors) like *Krodha*, *Shoka* and *Ayasa* are also contributing factors in the *samprapti* of *Vyanga*.

The drugs used in the treatment of *Vyanga* possess qualities like *Kushtagna*, *Kandughna*, *Raktashodhana*, *Twakprasadaka* and *Varnyakara*. *Varnya* drugs has action on skin colour mainly depends on *Bhrajaka Pitta*.

This review is mainly focused to find out the important properties of the individual drugs of *Kanaka*

Taila and their possible effects in *Samprapti Vighatan* of *Vyanga*.

Samprapti of Vyanga

The *Samprapti* of *Vyanga* is not explained in detail in any of the classical texts

Nidanasevana (Aharaj, Viharaj & Mansik-Krodha, Shoka etc)

↓

Doshaprakopa (Vitiation of Vata and Pitta)

↓

Rasadusti and Raktadusti

↓

Mukha mandal Sthana samshraya

↓

Vyakta lakshana (Niruja, Tanuka, Shyava Mandala)

↓

Vyanga

Probable mode of action of *Kanaka Taila*

Most of the ingredients of the formulation have *Varnya* property. *Manjishta* is *Rakta prasadaka* and also *Kushtaghna dravya*. *Yashtimadu*, *Rakta chandana* provides good complexion to the skin.

Also, the ingredients of *Kanaka Taila* possess *Madhura*, *Tikta* and *Kashaya Rasa*.

These *Rasas* do the *Upashamana* of *Prakupita* (vitiated) *Vata* and *Pitta* and thus pacifies *Pitta* which is the main culprit in the causation of *Vyanga*. Most of them possess *Snigdha*, *Laghu*, *Ruksha Gunas*. *Snigdha Guna* is responsible for *Mardava* and *Varna prasadhana* whereas *Laghu*, *ruksha* are the properties of *Agneya Dravya* which in turn are responsible for *Prabha*, *Prakasha* and *Varna*. This *taila* contains *Raktaprasadaka*, *Vata Pitta Shamak*, *Kapha Pittashamak*, *Kushtagna*, *Varnya* drugs. So, the properties of *Kanaka taila* are favouring the objective for caring and healing of the *Vyanga*.

After the application of *Taila*, *Abhayanga* should be done which is *Varnaprasadhak* itself. *Taila*, then comes in contact with *Roma* and *Romakupa*. *Paka* of active principle of drug takes place by action of *Bhrajaka Agni* and *Rasadhatuagni*. *Bhrajaka Pitta* metabolizes externally applied drug. Thus, the *Dosha* is pacified and pathogenesis is break down by active principle of drug.

CONCLUSION

Vyanga is not only limited to cosmetic problem but it also has negative impact on quality of life. As *Vyanga* is a disease concerned with skin, topical application is preferred. Many of such formulations are found to be effective in making skin healthy and to get rid of skin ailments, especially hyper pigmentation disorders. The drugs of *Kanaka Taila* are *Pittashamaka*, it has properties like *Guru*, *Snigdha*, *Madhura*, *Tikata Rasa* and it advances glow and complexion of the skin. *Kanaka Taila* has antioxidant, anti-inflammatory and anti-hyperpigmentation effect. It prevents black spots, dark circles, scars, and hyperpigmentation, helpful in treatment of *Vyanga*.

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