IAMJ

INTERNATIONAL AYURVEDIC MEDICAL JOURNAL

Research Article ISSN: 2320-5091 Impact Factor: 6.719

SIDHMA KUSHTA: INSIGHTS INTO ITS CORRELATION WITH PITYRIASIS VERSICOLOR

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https://doi.org/10.46607/iamj1113032025

(Published Online: March 2025)

Open Access

Article Received: 06/02/2025 - **Peer Reviewed:** 27/02/2025 - **Accepted for Publication:** 08/03/2025.

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ABSTRACT

Sidhma Kushta, classified under *Kshudra Kushta*, is often correlated with Pityriasis Versicolor due to similarities in their clinical presentation. Both conditions manifest as superficial skin lesions with hypopigmented or hyperpigmented patches and minimal scaling, predominantly affecting the *Urdhwakaya* (upper body) due to a higher concentration of sebaceous glands. The *Samprapti*(pathogenesis) of *Sidhma Kushta* involves a combination of *Aharaja* and *Viharaja Nidana*, leading to *Tridosha aggravation***,** *Jataragnimandhya*, and *Swedavaha Srotas Dushti*, creating a favourable environment for Malassezia overgrowth. Fungal metabolism interferes with melanin synthesis, contributing to hypopigmentation through tyrosinase inhibition and mitochondrial dysfunction, while inflammation and melanosome alterations cause hyperpigmentation**.** *Kandu* (itching) is linked to *Kapha-Rakta Dushti* and is often exacerbated by humidity and sweat. Scaling, or *Bahya Rukshata*, results from keratinase activity and epidermal barrier disruption.

Thus, *Sidhma Kushta* (Pityriasis Versicolor) is a *Kapha-Vata Pradhana Tridoshaja* skin disorder that requires an Ayurvedic approach to address Dosha imbalance, immune function, and fungal proliferation for effective management.

Keywords: *Sidhma Kushta*, Pityriasis versicolor, Tinea versicolor, Malassezia

INTRODUCTION

Pityriasis versicolor, also known as tinea versicolor, is a common superficial fungal infection of the skin caused by yeast-like organisms such as *Malassezia globosa* or *Malassezia furfur*. These organisms require lipids in their medium to grow. [1] They are part of the normal skin flora of humans and animals as commensals. Under certain conditions, these commensal yeast cells assume a pathogenic form, invade the stratum corneum (the outermost layer of the skin), and cause alterations in pigmentation. [2]

Pityriasis versicolor is more prevalent in tropical regions due to relatively high temperatures and humidity, with up to 40% of the population affected. Its prevalence varies geographically with differences in the distribution of *Malassezia* species. [3] This condition is uncommon in childhood but becomes more frequent in late adolescence, peaking in the early 20s. It is characterised by the appearance of perifollicular macules with fine scaling. These macules may range in colour from white to pink, salmon, or brown, eventually merging to form larger patches. In India, Pityriasis versicolor predominantly affects the neck (71.6%), chest (58.3%), and back (70%), while the involvement of flexural areas is rare. The distribution of lesions often correlates with the density of sebaceous glands. [4]

In Ayurveda, skin disorders are broadly classified under the term *Kushta*, with *Sidhma Kushta* being a variety of *Kushta*. It primarily affects the first layer of the skin (*Twacha*) and is associated with *Kapha Dosha* predominance.[5] The clinical features of *Sidhma Kushta* include *Shwetha* (white lesions) or *Tamra* (coppery lesions), *Tanu cha yad Rajodrishtam* (thin scales or dust-like powder that flakes off upon rubbing), and *Kandu* (itching), typically seen on the upper body (*Urdhwakaya*).

Sidhma Kushta, classified under the *Kshudra Kushta* category, is often correlated with Pityriasis versicolor due to similarities in their clinical presentations. Both conditions are characterised by superficial skin lesions that appear discoloured patches with minimal scaling. In *Sidhma Kushta*, these patches may be *Shweta* (hypopigmented) or *Tamra* (hyperpigmented), resembling the appearance of Pityriasis versicolor. Additionally, lesions in *Sidhma Kushta* are typically non-itchy, aligning with the clinical features of Pityriasis Versicolor.

MATERIALS AND METHODS:

Sidhma is derived from the *Sidh Dhatu*, which means *Kilasa* (whitish or brownish discolouration). *Acharya Dalhana*, in *Nibandha Sangraha*, mentions two types of *Sidhma Kushta:* ***Pushpika Sidhma*** and ***Sidhma***. ***Pushpika Sidhma*** represents the initial stage, where the *Dosha-Dushya Sammurchana* is weak and responds well to early treatment. *Sidhma* is the advanced stage of *Pushpika Sidhma*, with a more pronounced pathology. These conditions are classified under *Kshudra Kushta* or, in severe cases, *Maha Kushta* based on their progression.[6]

Karya-Karana Siddhanta emphasises the cause-effect relationship in disease manifestation. *Nidana*, as the causative factor, disturbs *Dosha* equilibrium, leading to disease. However, no specific *Nidana* is mentioned for *Sidhma Kushta*, general *Kushta Nidana*, including *Viruddha Ahara, Mithya Vihara, Sheetoshna Vyatyasa Sevana* (sudden diving in cold water or drinking cold water after fear, exhaustion and coming from sunlight), and suppression of *Adharaniya Vega*, *Divaswapna* etc can be considered. *Manasika Nidana*, like Chinta, Bhaya, and Krodha, contribute to *Dosha* vitiation, affecting *Rasavaha* [7] and *Swedavaha Srotas*.[8] *Kulaja Nidana (Beeja dushti)* is also implicated, as *Kushta* is classified as an *Adibalapravritta Vyadhi* by *Acharya Sushruta*.[9]

Clinical Features & Description

- **Sushruta:** Mentions *Kandu* (itching) as the main symptom and *'Apayi'* - *Akastakari* (asymptomatic/mild nature).[10] *Harana Chandra* clarifies that *'Apayi'* means disappearing in the winter season. अपायि शीततौ विनाशीत्यर्थः...
- **Charaka:** Describes white and copper-coloured, branny desquamating lesions, resembling the *Alabu* flower (Lagenaria siceraria), mainly on the chest, indicating a *Kaphaja* nature. [11]

- **Vagbhata:** Adds two more symptoms such as - Patches are dry outside (*Antah Snigdha Bahi Ruksham*) and moist inside, gives out small scales when scratched (*Rajaha kiret* - positive nail scratch test) and having "*Shlakshna Sparsha*" [12]
- **Harita** states that it affects young individuals (*Yuva*). [13]

Samprapti (Pathogenesis)

Kushta arises from the simultaneous aggravation of *Doshas* and *Dushyas*. *Charaka* states that no *Kushta* is caused by a single *Dosha*; the etiological factors aggravate *Doshas*, which weaken the *Dhatus* and drastically disturb the standard configuration of the Dhatus, causing *"Shaithilya"* (loss of integrity). In the next stage, the aggravated *Doshas* proliferate at their respective habitats, gain momentum and get lodged in the deranged Twak, Rakta, Mamsa and Ambu Dhatus due to their weak constituency, leading to the manifestation of *Kushta.* Due to indefinite combinations of Doshas, Dushya, Sthana, etc., Kushta presents in multiple forms.[14]

According to *Acharya Sushruta***,** *Kushta Samprapti* follows the *Avarana* process, where *Sama Vata* is obstructed by vitiated *Pitta* and *Kapha* due to *Viruddhahara* and unwholesome diets. This aggravated *Vata* carries *Doshas* through *Tiryag Siras*, affecting *Twak, Rakta, Mamsa*, and *Ambu Dhatus*, leading to *Mandalas* and elevated skin lesions. Without timely management, deeper *Dhatus (Meda, Asthi, Majja)* may also get involved.[15]

Pigmentary Alterations in Pityriasis Versicolor (PV)

The fungal Malassezia species is found on the normal skin flora of both humans and animals as a commensal. Under certain conditions, these commensal yeast cells take pathogenic mycelial form, invade the stratum corneum, and produce the disease. This condition is frequently seen in adolescents and young adults and affects men and women equally, without any specific ethnic predominance.

Malassezia depends on exogenous lipids (12–14 carbon fatty acids) for growth; human skin is rich in free fatty acids, which serve as media for growth and survival. Malassezial antigens interact with neutrophils and monocytes**,** stimulating IL-8 and IL-1α. They also possess lipoxygenase enzymes**,** which peroxidise unsaturated skin lipids, producing lipoperoxides that are toxic to melanocytes. [16]

Theories on Pigmentary Changes in Pityriasis versicolor:

1. **Disproven Race Theory:** Early beliefs linked pigmentation to skin type; later studies found no correlation. Pigmentation varies due to fungal strains.[17]
2. **Melanosome Alterations:** Hypopigmented skin has smaller melanosomes, abnormal keratinocyte transfer, and increased lysosomal degradation.[18]
3. **Melanin Inhibition:** Malassezia produces azelaic acid, which inhibits tyrosinase, reducing melanin synthesis.[19]
4. **Cytotoxic Effects:** Dicarboxylic acids impair mitochondrial function, leading to melanocyte degeneration. [20]
5. **Tryptophan Metabolism:** M. furfur metabolises L-tryptophan, affecting melanosome structure and causing hypopigmentation. [21]
6. **UV Protection:** Pityriacitrin, an indole pigment from M. furfur, blocks UV-induced tanning. [22]
7. **Keratin Degradation:** Malassezia penetrates keratinocytes, forming a lipid-like UV blocker, further reducing pigmentation. [23]
8. **Hyperpigmentation Factors:** Chronic PV involves increased fungal load, keratin thickness, cell turnover, inflammation, and endothelin-1 stimulation of melanocytes. [24]

DISCUSSION

Sidhma Kushta, classified under the *Kshudra Kushta* category, is often correlated with Pityriasis versicolor due to similarities in their clinical presentation. Both conditions are characterised by superficial skin lesions, typically appearing as discoloured patches with minimal scaling.

The *Samprapti* of *Kushta* in terms of *Sidhma* (pityriasis versicolor) can be interpreted by synthesising the *Samprapti* of *Kushta* mentioned in the classical description.

The fungal species *Malassezia* is naturally found on the normal skin flora of both humans and animals as a commensal organism. However, under certain conditions, this harmless yeast transforms into a pathogenic mycelial form, invading the stratum corneum and causing fungal infection. Although Malassezia is an exogenous factor, it cannot invade the skin unless immune defences are compromised. From an Ayurvedic perspective, the pathogenesis of *Sidhma Kushta* unfolds through the interaction of *Aharaja* (dietary) and *Viharaja* (lifestyle) factors leading to *Dosha* and *Dhatu* imbalance**.**

Among dietary factors, *Viruddha Ahara* (incompatible food) plays a crucial role in *Kushta*. It disrupts *Doshas, Dhatus,* and *Malas,* leading to spikes in blood glucose, excess sebum production, and immune suppression. All these conditions disrupt the skin's balance and favour the growth of *Malassezia* fungus.

Lifestyle factors, particularly *Ativyayama* (excessive physical activity), make individuals like gym-goers and athletes more prone to the condition, as intense physical activity leads to increased sweat production. Tight synthetic gym attire traps sweat and heat, preventing the skin from breathing and further providing moisture accumulation and a conducive environment.

When Nidana aggravates the Tridoshas, it simultaneously causes *Jataragnimandhya* (digestive fire impairment), which leads to *Bhrajakagnimandya* (weakened skin metabolism) and *Swedavaha Srotas Dushti* (disturbance of sweat channels). This results in the formation of *Ama visha*, which mixes with *Rasa Dhatu* and is carried to the external body surface through *Tiryag Siras,* further provoking Doshas. This process weakens *Rasa, Rakta*, and *Mamsa Dhatus*, as stated by *Acharya Sushruta*: **"**तेन रसो रक्तं मांसमम्बु च दुष्टमनुगृह्यते**".**

Thus, the *doshas, with their virulent power, make the Rasadi Dhatus feeble and powerless. Their compromised state* creates a suitable environment for fungal spores to thrive on the skin, ultimately leading to the manifestation of *Sidhma Kushta* (Pityriasis Versicolor).

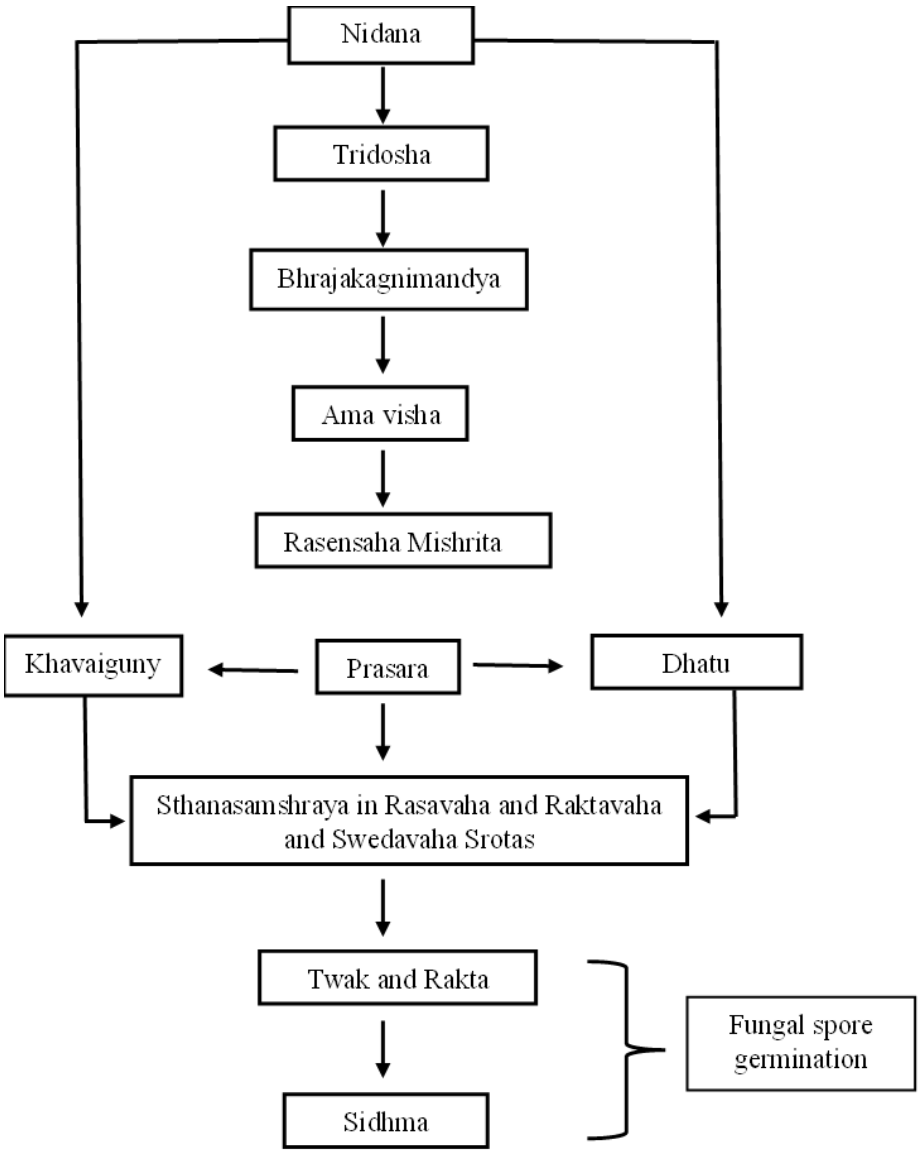

Figure No.1: Samprapti of Sidhma Kushta

LAKSHANA

Both conditions are predominantly seen on Urdhwakaya, i.e., areas like the chest, back, neck, and shoulders, due to the higher concentration of sebaceous glands in these regions. The *Shweta* and *Tamra Varna* in *Sidhma Kushta* may be linked to fungal interference with melanin production.

Malassezia affects the skin directly through its metabolites, irritating it and indirectly by triggering immune responses, leading to inflammation. Individuals with mild barrier defects can cause hypopigmentation by producing azelaic acid, which inhibits tyrosinase, disrupts mitochondrial function, and impairs melanin synthesis. Additionally, lipoperoxidation damages melanocytes, further hindering melanin production and transport. [25] On the other hand, hyperpigmentation results from inflammation, tonofilament increase in the stratum granulosum, and melanosome enlargement, which contribute to the thickening of the stratum corneum, leading to darker pigmentation.[26]

Kandu is a type of shleshmaja vedana [27] that occurs as a result of *Kapha & Rakta dushti.* There is no scientific explanation for itching why it is seen in pityriasis versicolor. It is hypothesised that a humid and

moist environment enhances the virulence of the fungus, which manifests as itching immediately after sun exposure or sweating.

An invading pathogen produces oleic acid, causing skin irritation and partially disrupting the epidermal barrier function. This disruption leads to increased trans-epidermal water loss, resulting in greater fragility of the stratum corneum. [28] The loosening of the horny layer of corneocytes, with the fungal keratinase, manifests as scaling [29], referred to as *bahya rukshata*. This was confirmed using the "evoked scale" sign, which involves provoking visible scales by stretching or scraping the lesion.[30]

CONCLUSION

Sidhma Kushta, correlated with Pityriasis Versicolor, is a superficial fungal disorder primarily affecting the *Urdhwakaya* due to the high concentration of sebaceous glands. Its *Samprapti* involves a combination of *Aharaja* and *Viharaja Nidana*, leading to *Tridosha* aggravation, *Jataragnimandhya*, and *Swedavaha Srotas Dushti*, creating a conducive environment for Malassezia overgrowth.

Shweta-Tamra Varna of the lesions is attributed to Malassezia's interference with melanin production through mechanisms like azelaic acid-induced hypopigmentation and inflammatory hyperpigmentation. The presence of *Kandu*, a *Shleshmaja Vedana*, aligns with *Kapha-Rakta Dushti*, though its exact pathophysiology in Pityriasis Versicolor remains unclear. Scaling, or *Bahya Rukshata*, results from keratinase activity and epidermal barrier disruption.

Thus, *Sidhma Kushta* (Pityriasis Versicolor) is a *Kapha vata pradhana tridoshaja* skin disorder with a multifaceted pathogenesis involving dosha imbalance and fungal proliferation.

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Source of Support: Nil
Conflict of Interest: None Declared

How to cite this URL: Sudesh K S et al: Sidhma Kushta: Insights into Its Correlation with Pityriasis Versicolor. International Ayurvedic Medical Journal {online} 2025 {cited March 2025}