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A REVIEW ARTICLE ON ŚVITRA W.S.R. VITILIGO: AN ĀYURVĒDIK REVIEW

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ABSTRACT

Vitiligo, known as Śvitra (~Vitiligo) in $\bar{A}yurv\bar{e}da$, is a skin condition characterised by the loss of pigmentation, leading to white patches. It significantly affects individuals' self-esteem and social interactions, making it a crucial issue for modern medicine and $\bar{A}yurv\bar{e}da$. While the exact cause of Śvitra is unclear, it is often associated with autoimmune disorders, dietary habits, mental stress, and hereditary factors. Modern medicine primarily focuses on symptom management, whereas $\bar{A}yurv\bar{e}da$ addresses the underlying *Doṣa* imbalances, offering a holistic approach to treatment. This study aims to explore the pathophysiology of Śvitra from $\bar{A}yurv\bar{e}dik$ and modern perspectives, seeking to bridge the gap between these two approaches. By analysing classical $\bar{A}yurv\bar{e}dik$ texts and modern medical literature, the study highlights the significance of understanding Śvitra's historical context and integrating ancient wisdom with contemporary practices. $\bar{A}yurv\bar{e}dik$ treatment emphasises $\hat{S}\bar{o}dhana Karma$ (~purification),

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 $S\bar{u}ryap\bar{a}dasant\bar{a}pa$ (~sun exposure), and herbal remedies to balance the aggravated *Doşa*. In contrast, modern treatments focus on managing symptoms through topical controversy, phototherapy, and immunomodulating agents. Integrating both approaches could offer a more comprehensive treatment plan, addressing the physical and psychological aspects of *Śvitra*. In conclusion, understanding *Śvitra* from both *Āyurvēdik* and modern medical perspectives is crucial for developing effective treatment options. This study suggests that combining these approaches could lead to more holistic and successful outcomes, with future research focusing on clinical trials to validate these integrated treatments.

Keywords: Śvitra, Vitiligo, Loss of Pigmentation, Leukoderma.

INTRODUCTION

All over the world, people are classified based on the colour of their skin, which varies according to their geographical location and plays a vital role in their identity. In today's society, the colour of a person's skin can become a significant challenge if it does not align with their desires or societal demands, especially when white patches appear on the skin. Therefore, there is a need for an open and detailed discussion on this issue so that the harmful effects on individuals' social lives and mental health can be prevented, and the primary objectives of $\bar{A}yurv\bar{e}da$ can be upheld. When the pigmented substances in the skin decrease or disappear, the skin's affected area becomes white, termed vitiligo¹.

Vitiligo referred to as *Śvitra* in $\bar{A}yurv\bar{e}da$, is a visually striking and common pigmentary disorder characterised by patchy loss of skin pigmentation. Its existence has been recognised for centuries, and recent developments have improved our understanding of its pathobiological mechanisms, revealing that autoimmune disorders play a significant role in destroying melanocytes. However, this condition is considered challenging to cure according to $\bar{A}yurv\bar{e}da$ (*Kaṣṭasādhya Vyādhi*).²

The exact cause of Vitiligo is unknown, but it is often attributed to autoimmune disorders. Factors include faulty dietary habits, hereditary history ($\sim Kulaja$ *itihas*), excessive mental stress, and low immunity. *Āyurvēda* explains that this condition primarily results from the aggravation of *Pitta Doşa* (\sim morbid state of $D\bar{o}sa$), leading to the accumulation of $\bar{A}ma$ (\sim toxin) in the deeper layers of the skin.³ The main aspect of treatment depends on whether the disease is spreading or stable. If it spreads, the first step should be to stop it before proceeding with repigmentation. Modern research and traditional knowledge, such as $\bar{A}yurv\bar{e}dik$ practices that emphasise balancing *Doşa* and strengthening the immune system, present an opportunity for more effective treatments. This $\bar{A}yurv\bar{e}dik$ approach not only aims to restore pigmentation but also addresses vitiligo's profound social and emotional impacts, offering hope for improved care and prevention in the future. Treatment is tailored based on factors like *Duşyam*, *Deśam*, *Balam*, *Kālam*, *Prakrti*, *Analam*, and *Vaya*.⁴

Vitiligo is a common pigmentary disorder with a prevalence rate that varies across different populations. Globally, the prevalence of vitiligo is estimated to be around 0.5% to 2% of the population. In India, the prevalence is higher, with studies showing a rate ranging from 0.5% to 4% of the population and some reports indicating even higher prevalence in certain regions.⁵

AIM

To study the pathophysiology of Svitra from $Ayurv\bar{e}dik$ and modern perspectives and evaluate its management through $Ayurv\bar{e}da$.

OBJECTIVES

- 1. To explore the *Āyurvēdik* understanding of *Śvitra*:
- Analyse the causes and mechanisms according to *Āyurvēdik* principles, including the role of *Doşa* and *Dhātu*.
- 2. To examine the modern medical perspective on Vitiligo:

- Review the scientific understanding of Vitiligo's pathophysiology, including autoimmune factors and genetic influences.
- 3. To compare *Āyurvēdik* and modern views on the pathophysiology of *Śvitra*/Vitiligo:
- Identify key similarities and differences in understanding and classifying the disease.
- 4. To investigate integrative approaches to *Śvitra* management:
- Explore the potential for combining $\bar{A}yurv\bar{e}dik$ treatments with modern therapies for comprehensive care.

MATERIAL AND METHODS:

The study draws upon textual references from classical $\bar{A}yurv\bar{e}dik$ literature available at the Central Library of Dr. S.R. Rājasthān Āyurved University, Jodhpur. Modern medical texts, peer-reviewed journals, and reputable online sources have also been consulted. These sources have been systematically and logically analysed to compare and synthesise $\bar{A}yurv\bar{e}dik$ and modern perspectives.

HISTORICAL REVIEW

The study of history provides insights into the origin of diseases. Numerous historical references regarding the disease Śvitra have been documented since the Vaidik period. For convenience, the historical time-line is outlined below.

• Vaidik Kala (2500 BC - 1000 BC)

The literature from various epochs serves as valuable sources of knowledge in understanding the disease Śvitra. The four prominent *Vedas - Ragvēda*, *Sāmvēda, Yajurvēda*, and *Atharvavēda -* contain many references to this disease. In the *Rigveda*, the term "*Kilāsa*" describes a spotted deer, which strikingly resembles the hypopigmentary patches of Śvitra that spread over the body without forming ulcers.⁶ In the *Atharvavēda*, Śvitra is not directly mentioned. However, terms like "*Kilāsa*" and "*Palita*" are used in its place.⁷ In the *Kośika Sūtra* of the *Atharvavēda*, herbs such as *Rama*, *Kṛṣṇa*, and *Asikri* are described for their remedial properties against *Kilāsa* and *Darila*. A commentator notes that *Bhṛngarāja*, *In*- *dravarū*, $n\bar{n}$, and $N\bar{n}li$ correspond to these herbs, respectively, and highlights *Rajanī* (Turmeric) for its role in maintaining skin colour.⁸ The *Yajurvēda* also references *Śvitra*, mentioning that this disease affects the moon. According to *Manu*, individuals affected by *Śvitra* and their progeny are disqualified from wedlock.

• Samhitā Kāla (1000 BC - 100 AD)

The *Samhitā* period is considered the golden era of $\bar{A}yurv\bar{e}da$ due to significant contributions made during this time. $\bar{A}c\bar{a}rya\ Caraka$, in the *Cikitsāsthāna* of his treatise, provides a detailed and rational discussion on the diagnosis, classification, curability, and treatment of *Śvitra* that stands out as more comprehensive and logical compared to the descriptions of other $\bar{A}c\bar{a}rya$.

This explanation by $\bar{A}c\bar{a}rya$ Charaka is more elaborate and grounded in sound reasoning, offering a deeper insight into the management and understanding of *Śvitra* in $\bar{A}yurv\bar{e}da$.⁹

 $\bar{A}c\bar{a}rya$ Suśruta also addresses Śvitra in the Kuṣṭha rogādhyāya chapter, categorising it into Vātaja, Pittaj, and Kaphaj types.¹⁰ $\bar{A}c\bar{a}rya$ Bhēla and Kāśyapa Samhitā also describe Śvitra, with the latter defining its primary symptom as Tvaca Śvetatā (~skin whiteness).

• Samgraha Kāla (800 AD - 1700 AD)

This period is marked by compiling and reproducing the scattered information from earlier *Samhitā* into organised works. Notable texts include *Aṣṭānga Samgraha, Aṣṭānga Hṛdaya, Mādhava Nidāna, Bhāva Prakāśa, Śārngadhara Samhitā,* and *Yoga Ratnākara.* In the *Aṣṭānga Sangraha,* there is a special mention of the causative factor *Saviṣa Jalaukāvacaraṇa* (~poisonous leeching).¹¹

• Ādhunika Kāla (1700 AD - Present)

The modern period began with the arrival of foreigners, who saw tremendous medical advancements. In 1937, Becker and Obermayor recorded vitiligo cases. Subsequent studies by Bubkley and Lobitz (1953), A. B. Lener (1959), Fitz Patric (1974), Parish J.A. (1976), N. Behl (1980), and Roburghi (1980) have delved into the depths of vitiligo research.

NIRUKTI OF ŚVITRA

The term '*Śvitra*' is derived from the root verb " *Śvit*," with the addition of the suffix '*RIK*'. The formation of the word can be represented as follows:

 $SVITH + RIK + KA \rightarrow ŚVITRA$

The word '*ŚVITRA*' broadly means '*Śveta Varṇa*,' which translates to 'white colour.'

PARIBHĀṢĀ OF ŚVITRA

According to the *Śabda Kalpadruma:* "Śvetateiti Śvitram"

This definition indicates that Śvitra is a disease where whitish skin discolouration is a prominent symptom. The *Kāśyapa Samhita* offers a similar definition:

"Śvetabhāvamicchanti Śvitram"

This means *Śvitra* is a disease characterised by the whitish colour of the skin.

PARYĀYA (SYNONYMS)

- 1. Śvetakustha
- 2. Kuṣṭha
- 3. Kilāsa
- 4. Cāruņa
- 5. Dāruņa
- 6. Varuņa

Śvetakuṣṭha

"Śvetatānenaitiśvetakustham"

According to *Amarakoşa*, *Śvetakustha* is one of the synonyms for *Śvitra*. *'Śveta'* means white, and *'Kustha'* refers to a skin condition. This implies that the disease characterised by the whitish discolouration of the skin is known as *Śvetakustha*.

Nidāna (Causes) of Śvitra Rōga 12,13

The cause of the onset of *Śvitra* (~vitiligo) is like that of other types of *Kustha* (~skin diseases).

According to $\bar{A}yurv\bar{e}da$ (*Ca. Ci. 7/177*), there are mainly three types of causes for the occurrence of *Śvitra* disease:

- 1. Dietary Causes Diet Incompatibilities
- especially *Cilicima* fish (~Eating Fish) with milk can contaminate the blood because milk and fish have opposite *Vīrya* (~properties), and being highly *Abhişyandi*, they obstruct the channels of *Dōşa*, *Dhātu*, and *Srōtasa* (~channels).

- Drinking milk after consuming <u>Mūl</u>ī (~raddish), Lahasuna (~garlic), Sahajana (~drumstick), or the three types of Tulsi (Arjak, Sumukh, Surasā) leads to skin and blood disorders.
- Consuming mustard oil cooked with lotus root and *Rohinī's* vegetables and eating pigeon meat with milk and honey causes skin and blood disorders.
- Violating rules for consuming curd, such as eating warm curd, consuming curd during the spring, summer, and autumn seasons, and eating curd at night.
- Simultaneously consuming milk, curd, buttermilk, meat, and *Kulthi* (~horse gram) leads to issues.
- 2. Lifestyle Causes
- > Suppressing natural urges like vomiting.
- > Exercising in a state of indigestion.
- > Incorrect application of *Panchakarma*.
- 3. Behavioral Causes
- > Speaking falsehoods.
- Criticising deities.
- Disrespecting teachers and elders.
- Committing sinful acts.
- Previous birth's sinful deeds.

SAMPRĀPTI (~PATHOGENESIS) OF ŚVITRA Rōga

No specific *Samprāpti* (~pathogenesis) for *Śvitra* is mentioned in any *Āyurvēdik* texts. However, it is noted that both *Kustha* and *Śvitra* share common causative factors and treatment approaches. Therefore, it is inferred that the *Samprāpti* of *Kustha* also applies to *Śvitra*.

According to the *Hārita Samhitā*, due to the vitiation of *Vāta* and *Pitta Dōṣa*, the formation *of Rakta Dhātu* (~blood tissue) is disrupted, leading to the appearance of 'Śveta Varņīya' (~white) patches.¹⁴

The *Nidāna* (~causative factors) provoke a *Tridōṣha Prakōpa* (~aggravation of all three *Dōṣa*) and simultaneously lead to *Śaithilyatā* (~laxity) in the *Tvak* (~skin), *Rakta* (~blood), *Māmsa* (~muscle), and *Meda* (~fat). These aggravated *Dōṣa* cause *Agnimāndya* (~digestive fire impairment) at various levels of *Dhātvāgni* (~tissue metabolism). Consequently,

 $\bar{A}ma$ (~toxins) related to both $D\bar{o}sa$ and Dusya are formed. These $S\bar{a}ma$ (~toxin-laden) $D\bar{o}sa$ are carried throughout the body via the $Ras\bar{a}vahin\bar{n}$ (~circulatory channels). When these $D\bar{o}sa$ become lodged in the *Śithila* (~weakened) $Tvak\bar{a}di$ $Sth\bar{a}na$ (~skin and related sites), they cause Srotosamga (~blockage) in the $Raktavaha, M\bar{a}msavaha,$ and Medovaha $sr\bar{o}tasa$ (~channels for blood, muscle, and fat). This leads to the vitiation of the local Pitta, specifically $Bhr\bar{a}mjaka$ Pitta, resulting in the manifestation of Svitra. While all three $D\bar{o}sa$ are involved, Vyanavayu and $Bhr\bar{a}mjaka$ Pitta are particularly affected.

Samprāpti Ghatak

- 1. Doșa:
- Tridoşaja (~All three Doşa: Vāta, Pitta, and Kapha are involved, mainly Pitta Doşa)
- 2. **Duşya:**
- ➢ Rakta (~Blood)
- ➢ Māṁsa (∼Muscle)
- ➢ Meda (~Fat)
- 3. *Srotas* (~Channels)
- ➢ Raktavaha Srotas
- ➢ Māṁsavaha Srotas
- Medovaha Srotas
- 4. *Srotodusți Prakāra* (~Type of Channel Obstruction)
- Sanga (~Obstruction)
- 5. *Rōga Mārga* (~Pathway of Disease)
- ➢ Bāhya (∼External pathway)
- 6. Adhisthāna (~Primary Location)
- ➤ Tvak
- 7. Vyaktasthāna (~Manifestation Site)
- > Tvak

Understanding Skin Color and Melanin Synthesis^{15,16,17}

According to modern science, the outer layer of the skin, known as the epidermis, consists of a basal cell layer (stratum germinativum) where keratinocyte cells are present. Interspersed among these keratinocytes are melanocytes, a type of dendritic cell. Within these melanocytes, melanin is synthesised, stored in organelles called melanosomes, and naturally transported to groups of about 36 keratinocytes, forming what is known as the epidermal melanin unit.

Variations in skin colour among different individuals depend on factors such as the degree of melanisation within the epidermal melanin unit and the number, size, and distribution of melanocytes and melanosomes. During melanin synthesis, the amino acid tyrosine-obtained from casein protein-is catalysed the enzyme tyrosinase L-3.4by into Dihydroxyphenylalanine (DOPA). Tyrosinase then catalyses the conversion of DOPA into Dopaquinone, which spontaneously rearranges into Dopachrome. is further converted into 5,6-Dopachrome dihydroxyindole (DHI) and 5,6-dihydroxyindole carboxylic acid (DHICA) by the enzymes DCT and TYRP-2. These compounds are isomers known as I-5,6-Q and I-5,6-QCA, respectively.

Subsequently, the *tyrosinase* and *TYRP-1* enzymes catalyse the conversion of 5,6-*DHI* and 5,6-*DHICA* into *Indole-5,6-quinone* and *Indole-5,6-quinone carboxylic acid*, which are monomers of *Eumelanin*. *Eumelanin* then polymerises to form the brown/black pigment known as *Eumelanin*. This entire process of melanin synthesis plays a crucial role in determining an individual's skin colour.

When the skin produces less melanin pigment, it becomes lighter or fairer. However, skin colour variations depend on the amount of melanin produced per melanocyte and the number, size, and distribution of melanosomes, not merely on the number of melanocytes.

Vitiligo (*Śvitra*): A Condition Affecting Skin Pigmentation¹⁸

Vitiligo is a skin condition characterised by the loss of pigment in certain areas, leading to the development of lighter or white patches on the skin. This occurs due to the destruction or dysfunction of melanocytes, the cells responsible for producing melanin. The exact cause of vitiligo is not fully understood, but it is believed to involve an autoimmune response where the body's immune system attacks its melanocytes.

Key Points about Vitiligo:

- Melanocyte Destruction: In vitiligo, melanocytes in affected skin areas are destroyed or rendered inactive, resulting in a loss of melanin production.
- Skin Color Patches: The loss of melanin causes uneven skin colour, leading to the appearance of white or light patches on the skin.
- Genetic and Environmental Factors: While genetic factors can trigger the condition, environmental factors such as stress, skin trauma, or exposure to certain chemicals often exacerbate it.
- Treatment Options: Treatments for vitiligo may include topical steroids, phototherapy, and, in some cases, surgical options like skin grafting. The aim is to restore pigment and even out skin tone.

Understanding vitiligo and its impact on melanin production helps comprehend the broader spectrum of skin colour variations and conditions affecting pigmentation.

$R\overline{U}PA$ (~SIGNS AND SYMPTOMS) OF *ŚVITRA* $R\overline{O}GA$

The term *Śvitra* itself is derived from "*Tvaca Śvetatā*", indicating a whitish discolouration of the skin, which is the primary characteristic of this condition. Another crucial feature is *Aparisraavi*, meaning non-exudative or non-oozing lesions. Together, these two - *tvaca Śvetatā and Aparisrāvī* (~not having discharge) - are recognised as the *Sāmānya Rūpa* (~general features) of *Śvitra Rōga*.

Vitiligo, or Śvitra (Kilāsa), primarily affects the skin, and understanding its structure is vital in $\bar{A}yurv\bar{e}da$. According to $\bar{A}c\bar{a}rya$ Caraka, the skin consists of six layers: Udakadhara, Asrgdharā, Tṛtīya, Chaturthī, Pañcamī, and Ṣaṣṭhī, with vitiligo affecting the third layer (Tṛtīya).¹⁹ Same is also described in Aṣṭāṅga Saṁgraha.²⁰

 $\bar{A}c\bar{a}rya$ Suśruta describes seven skin layers: Avabhāsinī, Lohitā, Śvetā, Tāmra, Vedinī, Rohiņī, and Māmsadharā. He states that vitiligo affects the fourth layer (Tāmra). Ācārya Vāgbhatta also recognises seven layers but does not elaborate on their specifics, following Ācārya Suśruta's classification.²¹ In $\bar{A}yurv\bar{e}da$, Svitra (*Kilāsa*) is understood based on the imbalance of the three $Doşa - V\bar{a}ta$, *Pitta*, and *Kapha* - and their effects on tissues - *Rakta*, *Māmsa*, and $M\bar{e}da$. It is a *Tridoşaja* disorder, indicating an imbalance in all three *Doşa*, and it manifests differently depending on the tissue involved.

According to *Ācārya Caraka*, *Dāruņa*, *Cāruņa*, *Śvit-ra*, and *Kilāsa* are synonymous terms, and the disease is generally *Tridoṣaja*. He classifies *Śvitra* into three types based on the affected tissues:

- 1. Rakta Dhātu Āśrita Śvitra: The skin turns red.
- 2. *Māmsa Dhātu Āśrita Śvitra:* The skin takes on a coppery hue.
- 3. *Meda Dhātu Āśrita Śvitra:* The skin becomes white. As the disease progresses through these types, it becomes harder to treat.²²
- *Ācārya Suśruta* classifies *Kilāsa* as a type of *Kuṣṭha*, dividing it based on *Doṣa* imbalances:
- 1. *Vātaja Kilāsa*: The skin appears reddish-brown and rough and may lead to hair loss.
- 2. *Pittaja Kilāsa*: The skin has a lotus-leaf colour and feels burning.
- Kaphaja Kilāsa: The skin is white, oily, and itchy. Kilāsa is distinguished from Kustha by being limited to the skin and non-exudative (~nonoozing).²³

In A*stānga* Hridaya, $\bar{A}c\bar{a}rya$ V $\bar{a}gbhat$ *ta* also recognises $\dot{S}vitra$ as a Trido*saja* disease, classifying it into three types based on the affected tissues:

- 1. *Vātaja Śvitra*: The skin becomes reddish-brown and dry.
- 2. *Pittaja Śvitra*: The skin turns copper-colored, with burning and hair loss.
- 3. *Kaphaja Śvitra*: The skin turns white, heavy, and itchy.²⁴

In summary, *Ācāryas Caraka, Suśruta,* and *Vāgbhatta* classify *Śvitra* (*Kilāsa*) based on the involvement of *Doṣa* and tissues, highlighting its progression and treatability.

SĀDHYĀSĀDHYATVA यत् परस्परतोऽभिन्नं बहु यद्रक्तलोमवत्। यच्च वर्षगणोत्पन्नं तच्छितं नैव सिध्यति ॥175 ।। अरक्तलोम तनु यत् पाण्डु नातिचिरोत्थितम्। मध्यावकाशे चोच्छूनं श्वित्रं तत्साध्यमुच्यते ।।176 ।।

Sādhyāsādhyatva No.	Lakshana	Caraka ²⁵	Suśruta ²⁶	Vāgbhata ²⁷
Sādhya				
1	Araktalōma	+	-	-
2	Tanu/Abahalama	+	-	+
3	Pāṇḍu	+	-	-
4	Nāticirōthitam	+	-	+
5	Madhyāvakasē/ Asammilitam/	+	-	+
	Asamsṛṣṭa			
6.	Aśuklarōma	-	-	+
7.	Anaṅgidagdham	-	-	+
Asādhya				
1	Parasparatō	+	+	-
	abhinnam/Samvaddha Maṇḍalam			
2	Bahu/bahalam	+	-	+
3	Yadraktalōmavat	+	-	-
4	Varșagaņotpannam	+	+	+
5	Antarjatam Raktalōmavat	-	+	-
6	Agni Dagdha	-	+	-
7	Guhya, Paṇitala, Austhagata	-	-	+

Sāpeksa Nidāna

S. No.	Kuṣṭha	Śvitra	
1	Saṅkrāmika Rōga	Not So	
2	Krimijanya	Not So	
3	Dhātukşaya	Not So	
4	Sapta Dhātu Gatatva	Tridhātu Gatatva	
5	Śarīra Vedanā	Absent	
6	Sravi	Aparisravi	
7	Sparśa Vikruti Present	Prakṛta Sparśā Present	

CIKITSĀ (~TREATMENT)

Considering the severity of the disease, $\bar{A}c\bar{a}rya$ $V\bar{a}gbhata$ emphasises the importance of initiating treatment for *Śvitra* without delay. He uses the analogy of controlling a fire before it consumes a forest, highlighting the need for timely intervention. $\bar{A}yurv\bar{e}dik$ treatment for Vitiligo is highly regarded, especially given the challenges associated with treating this skin condition through modern medicine.

 $\bar{A}c\bar{a}rya$ Caraka details the treatment of Śvitra following his extensive discussion on Kuṣṭha Cikitsā. The key components of Śvitra Cikitsā include:

Sodhana Karma (~Therapy):

 \circ The treatment begins with purification, where an herbal decoction of *Malapūrasa* (~Ficus hispida

Linn.) mixed with *Guda* (~jaggery) is administered to induce purgation, helping to detoxify the body and balance the aggravated *Dosa*.²⁸

> Sūryapādasantāpam (~Sun Therapy):

• Lesions are exposed to sunlight for as long as the patient can tolerate over 3 days. If the patient experiences thirst, they are given *Peya* (~a light, nourishing drink).²⁹

> Sphota Utpatti (~blister Formation):

• If *Sphoța* (~blisters) form after sun exposure, they should be carefully punctured using a sterile needle. For the next 15 days, the patient is administered a decoction made from *Malapūrasa*, Āsana (~Pterocarpus marsupium Roxb.), Priyaṅgu (~Callicarpa macrophylla) Vahl.), and *Śatapuṣpa* (~Anethum sowa Kurz) or is given *Palāśa Kṣāra*

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(~Butea monosperma) along with $Ph\bar{a}nita$ (~a traditional sweet preparation).³⁰

Lēpa (~Topical Applications):

A variety of medicinal pastes are applied to the affected areas, including *Manaḥśilādi Lēpa*,³¹ Av-algujādi Lēpa,³² Citrakādi Lēpa,³³ Guñjādi Lēpa,³⁴ Bakucyādi Lēpa,³⁵ Tuthyādi Lēpa³⁶, Balyādi Lēpa,³⁷ and Śveta Karvirādi Lēpa.³⁸

Cūrņa (~Herbal Powders):

 Various herbal powders are used internally, such as Pañcanimbādi Cūrņa,³⁹ Śaśānkalekhā Cūrņa,⁴⁰ Bākuci Cūrņa,⁴¹ Mustādi Cūrņa,⁴² Śvitrānaśana Cūrņa,⁴³ and Śvetakusthahāra Cūrņa.⁴⁴

> Ghrta (~Medicated Ghee):

 Medicated *ghī* preparations like *Mahātiktaka* Ghṛta,⁴⁵ Somrājī Ghṛta,⁴⁶ Pañcatiktaka Ghṛta,⁴⁷ and Mahākhadira Ghṛta,⁴⁸are recommended for internal use.

➢ Āvaleha (∼Herbal Jams):

• Herbal jams, including *Mahā Bhallātaka Guda*,⁴⁹ *Bhallātakāvaleha*,⁵⁰ and *Śaśāṅkalekhādileha*,⁵¹ is prescribed to nourish the body and support the treatment process.

> Taila (~Medicated Oils):

 Medicated oils used in treatment include *Āragvadhādi Taila*,⁵² Vişa Taila,⁵³ Marīcyādi Taila,⁵⁴ Pañcanāna Taila,⁵⁵ Kuştharākşasa Taila,⁵⁶ Kandarpa Sāra Taila,⁵⁷ Jyotişmatī Taila,⁵⁸ Snuhyādi Taila,⁵⁹ Vajra Taila,⁶⁰ and Śvitrāri Taila.⁶¹

Asava-Arista (~Fermented Herbal Preparations):

Fermented herbal preparations like
 Mādhvāşava,⁶² Kanakabindvārişţa,⁶³ Khadirārişţa,⁶⁴
 and Khadirāsava⁶⁵ are used to enhance digestion and
 support the body's natural healing processes.

Kvātha (~Herbal Decoctions):

Herbal decoctions such as Dhātrīkhadira
 Kvātha,⁶⁶ Vibhitakādi Kvātha,⁶⁷ Mañjiṣṭhādi
 Kvātha,⁶⁸ and Paṭolādi Kvātha⁶⁹ are administered to cleanse the body and support skin health.

Vați (~Tablets/Pills):

• Pills like *Avalgujādi Guțikā*, *Kaiśora Guggulu*,⁷⁰ and Śaśilekhā Vațī,⁷¹ and *Triphalā Guțikā*⁷² are prescribed for their specific benefits in treating Śvitra.

> Rasa (~Herbo-Mineral Preparations):

Herbo-mineral formulations such as *Śvetāri Rasa*,⁷³ *Kāsisabaddha Rasa*,⁷⁴ *Tālakeśvara Rasa*,⁷⁵ *Śvitrāri Rasa*,⁷⁶ *Kilāsanāśana Rasa*,⁷⁷ *Udayāditya Rasa*,⁷⁸ *Śvitrakantaka Rasa*,⁷⁹ *Śvetāriyoga*,⁸⁰ *Śvetakusthari Rasa*,⁸¹ and *Rasamanikya Rasa*⁸² are utilized to balance the *Doşa* and promote skin regeneration.

DISCUSSION

 $\bar{A}yurv\bar{e}da$, as a holistic science, offers a unique approach to treating and understanding *Śvitra*. The combined effects of *Śamana* (~palliative) and *Śo-dhana* (~purification) therapies, along with *Bāhya Cikitsā* (~external treatments), may lead to improvements through enhanced hepatic function, immune stimulation, and photoreaction. In *Āyurvēda*, *Śvitra* is primarily associated with *Pitta Doṣa*. The condition manifests at the skin level, and these elements are interrelated.

To address *Pitta Doşa* imbalance, *Virechana* (~therapeutic purgation) is considered a key treatment. *Virechana* helps to eliminate *Doşa* accumulation, disrupt the disease process (~*Samprāpti*), and improve the absorption of medicinal substances used in *Śamana Cikitsā* (~palliative therapy).

CONCLUSION

Vitiligo, known as *Śvitra* in $\overline{Ayurveda}$, is a skin condition characterised by the loss of pigmentation, resulting in white patches. This condition can profoundly impact an individual's social and mental well-being. $\overline{Ayurveda}$ considers *Śvitra* to be a difficult-to-cure condition, often associated with an imbalance in *Pitta Doşa*, along with contributing factors such as a faulty diet, stress, and low immunity.

This study aims to explore the pathophysiology of Śvitra from both $\bar{A}yurv\bar{e}dik$ and modern perspectives and to assess its management through $\bar{A}yurv\bar{e}dik$ principles. Historically, Śvitra has been recognised since the *Vedic* period, with references found in ancient texts like the *Ragvēda* and *Atharvavēda*. $\bar{A}yurv\bar{e}da$ has a long-standing tradition of addressing skin disorders, including Śvitra, with a rich history of treatment methods.

The pathogenesis of *Śvitra* in $\bar{A}yurv\bar{e}da$ is attributed to the aggravation of the *Tridoşa*, particularly *Pitta*, and the accumulation of toxins in the deeper layers of the skin, leading to the manifestation of white patches. In contrast, modern science views the condition as an autoimmune disorder where the body's immune system mistakenly attacks melanocytes, the cells responsible for skin pigmentation.

Treatment in $\bar{A}yurv\bar{e}dik$ involves a combination of purification therapies, herbal remedies, and controlled sun exposure to manage the condition. $\bar{A}yurveda$ emphasises the importance of early and prompt treatment to control the disease's progression and prevent further complications.

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