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A COMPREHENSIVE REVIEW OF *VYANGA* WITH SPECIAL REFERENCE TO MELASMA

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ABSTRACT

Vyanga is described under *Kshudra Roga* as a *Niruja, Tanu, Shyava mandala*, caused by the vitiation of *Vata* and *Pitta Dosha*, along with *Rakta Dushti*, leading to an alteration in skin complexion. This description closely correlates with Melasma, an acquired hyperpigmentation disorder characterised by symmetrical brown-to-grey patches on sun-exposed facial areas, commonly affecting females and impacting quality of life. **Objective:** To understand the concept of *Vyanga* and its correlation with Melasma. **Methods:** Information on *Vyanga* and Melasma was collected from *Brihatrayi* and *Laghutrayi*. Modern literature, journals, and websites were also reviewed. **Conclusion:** *Vyanga* and melasma show close similarity in their clinical features and causes and can be effectively managed using Ayurvedic principles, supported by improved understanding of diagnosis, disease severity, and progression through modern diagnostic tools.

KEYWORDS: *Vyanga*, *Kshudra roga*, Melasma.

1. INTRODUCTION

In Ayurvedic literature, *Twacha* is described as the external covering of the body that protects internal structures such as *Shonita* (blood), *Mamsa*, *Meda* (adipose tissue), and other

Dhatus[1] (body tissues), while also helping to preserve *Varna* (natural skin colour) and *Prabha* (radiance/complexion), which are primarily regulated by *Bhrajaka Pitta.*[2]

Twak Vikara are classified under *Kushta*, *Visarpa*, and *Kshudra Roga*, which develop due to derangement of *Tridosha* along with the involvement of *Twak*, *Rakta*, *Mamsa*, and *Lasika.*[3] The category of *Kshudra Roga* includes conditions with relatively mild causative factors and limited symptoms. Among these, *Vyanga* is identified as a *Raktapradoshaja Vyadhi* that primarily affects the *Mukhapradesha*, presenting as *Niruja*, *Tanu*, *Shyava Mandala*. The underlying pathology mainly involves vitiation of *Vata* and *Pitta Dosha* along with *dushita Rakta*.

Nowadays, as people care more about their facial skin, it has led to an increased understanding of hyperpigmentary conditions. Although *Vyanga* is not a severe condition, its visible nature often leads to cosmetic concern and psychological discomfort. Ayurveda highlights the use of various measures to improve skin complexion and restore normal skin physiology through both internal and external therapeutic approaches.

From a modern perspective, *Vyanga* and melasma share similar *lakshanas* (clinical features). Melasma presents as dark patches on sun-exposed areas like the cheeks, forehead, nose, and upper lip, and is more common in women and individuals with darker skin tones.

Melasma has many causes, including genetic factors, exposure to sunlight, hormonal changes, certain medicines, and the use of cosmetic products. These dark patches on the face can also affect a person's confidence and may lead to emotional stress.

Although many modern treatments, such as depigmenting creams, chemical peels, and laser therapies, are available, their results are often temporary, with a high chance of recurrence. These treatments may also cause side effects in some cases. Hence, the present study focuses on a conceptual understanding of Vyanga with special reference to melasma, based on Ayurvedic literature.

2. REVIEW OF VYANGA

Vyanga is categorised under *Kshudra Roga* (minor ailments) in both *Brihattrayi* and *Laghutrayi*; however, according to *Acharya Charaka*, it is described as one among the *Raktapradoshaja Vyadhi.*[4] *Kshudra Roga* defined as '***Kshudratvam punareshaam hetu lakshana chikitsaalpatvena'*** [5], means *Alpa Hetu*, *Alpa Lakshana*, and *Alpa Chikitsa*, and are

referred to as *Alpa Vyadhi*, *Swalpa*, *Adhama*, or *Kshudra* disorders.

- ***Nirukti***

The term Vyanga is derived from two components—*Vi* and *Anga*. 'Vi' denotes *vikruti* (discoloration) or *vighatana* (distortion), while '*Anga'* refers to a body part. In the present context, *Vyanga* is understood as dark patches or spots on the face.

In *Shabdakalpadruma*, Vyanga is defined as '***vikrutani angani yasya***,[6]' meaning, indicating the uneven skin colour and presence of visible Paches.

- ***Nidana***

Vyanga is classified under *Kshudra Roga*, which refers to minor diseases. According to *Shabdakalpadruma*, these are conditions where the involvement of *dosha, dushya*, and other factors are not described in detail. Even though *Vyanga* is described briefly, all classical texts mention *Vata, Pitta, and Rakta* as the main factors involved in its development. *Sushruta Samhita* describes specific *nidanas* such as *Krodha* (anger) and *Ayasa*[7] (physical strain), whereas *Ashtanga Hridaya* mentions *Shoka* (grief) along with *Krodha.*[8] Similarly, *Madhava Nidana*[9], *Vangasena Samhita*[10], *Yogaratnakara*[11], and *Bhavaprakasha*[12] also describe these same *nidanas*. Although no further specific causative factors are distinctly mentioned, all conditions that aggravate *Vata* and *Pitta* or vitiate *Rakta* (*vata-prakopaka*, *pitta-prakopaka*, and *rakta-duṣṭikara nidanas*) are considered significant in the pathogenesis of *Vyanga*.

Nidanas mentioned in the classical texts by different Acharyas.

Acharyas		***Nidana***	
	Krodha	***Shoka***	***Ayasa***
Sushrutha	+	-	+
Ashtanga Hrudaya	+	+	-
Ashtanga Sangraha	+	+	-
Madhava nidana	+	-	+
Bhavaprakasha	+	-	+
Yogaratnakara	+	-	+
Vangasena	+	-	+

- ***Purvarupa and rupa***

✓ There is no *Purvarupas* explained in classics as they are explained in *Kshudraroga*.

- ✓ The *Rupas* are described similarly by most *Acharyas* as *niruja*, *tanu*, and *shyava mandala.*[7,9,10,11,12] However, in *Ashtanga Hridaya*, it does not mention *niruja* among the *Rupa.*[8]

Sl.no	*Lakshana*	*Su.Sa*	*A.H*	*A.SAN*	*M.Ni*	*Y.R*	*V.Sam*	*B.P*
1	*Shyava Varna*	+	+	+	+	+	+	+
2	*Nirujam*	+	-	+	+	+	+	+
3	*Tanu*	+	+	+	+	+	+	+
4	*Mandal*	+	+	+	+	+	+	+

- **Types of *Vyanga*[8]**

According to *Ashtanga Sangraha, Vagbhata* has classified *Vyanga* into different types based on the predominance of *Doshas*.

a. In *Vataja Vyanga*- the lesions present with *shyava varna* (dark discolouration) along with *Kharata* (roughness) and *Rookshata* (dryness).

b. In *Pittaja Vyanga*- the edges appear *Tamra* (coppery) or *Neela varna* (bluish).

c. *Kaphaja Vyanga* - characterised by *Shweta varna* (whitish discoloration) associated with *Kandu* (itching).

d. In *Raktaja Vyanga*- the lesions exhibit *Rakta varna* (reddish discoloration) with a *Tamra varna* central area, accompanied by *Daha* (burning sensation).

Ayurvedic contemporary correlation

Sl.no	*Lakshana*	Literal Meaning	Modern Dermatological Correlate
1	*Niruja*	Painless	Absence of inflammation or tenderness (non-inflammatory hyperpigmentation)
2	*Tanu*	Thin / Superficial	Superficial pigmentation involving the epidermal layer
3	*Shyava Varna*	Dark / Dusky discolouration	Brown to bluish-black hyperpigmented macules (as seen in melasma)
4	*Tanu Mandala*	Thin patches	Flat, well-defined macular lesions without elevation

- ***Samprapti***

The *Samprapti* of *Vyanga* has been elaborately explained by various *Acharyas* with slight variations in perspective. According to *Sushruta Samhita*, *Krodha* (anger) and *Ayasa* (exertion) aggravate *Vata*, which then moves upward and lodges in the *mukhapradesha* (facial region). In association with *Pitta*, it causes discolouration of the *twacha* (skin) of the *mukha* (face), presenting as *niruja, shyava, tanu*, and mandala features.[8] He further mentions that *Vyanga* predominantly involves the second layer of the *twacha*, known as *Lohita,*[14]

which plays a crucial role in its manifestation.

Similarly, *Ashtanga Hridaya* explains that aggravated *Vata*, triggered by emotional factors such as *Shoka* (grief) and *Krodha*, when associated with *Pitta*, results in the appearance of light grey, circular patches on the face, which are clinically identified as *Vyanga.*[8]

Charaka Samhita states that due to *nidana sevana*, *Pitta* becomes aggravated and causes *shoshana* of *Rakta Dhatu*, leading to the manifestation of conditions such as *Tilakalaka, Piplu, Vyanga,* and *Neelika*.[13]

Thus, the pathogenesis of *Vyanga* can be summarised as follows

Vyanga is primarily caused by *nidanas* such as *Krodha* (anger), *Shoka* (grief), and *Ayasa* (exertion), which lead to *Vata* and *Pitta prakopa*. The aggravated *Vata* and *Pitta* undergo *urdhvagamana* (upward movement) and localise in the *mukha pradesha* (facial region) due to *kha vaigunyata* caused by *Atapa sevana* (excessive sun exposure). Continued indulgence in these *nidanas* further aggravates the *dosas*.

The *prakupita Vata* and *Pitta* cause *Rakta dushti* due to the *Ashraya–Ashrayi bhava* between *Pitta* and *Rakta*. Subsequently, these vitiated *dosas* undergo *sthanasamshraya* in the *raktavaha srotas* of the second layer of *twacha*, called *Lohita*, leading to *vaivarnyata* (discolouration) of the *mukhagata twacha*.

Clinically, this manifests as *niruja* (painless), *tanu* (thin), and *shyava varna mandalas* (dark patches) on the *mukha pradesha*, which are characteristic features of *Vyanga*. With increased involvement of *Vata*, features such as *Kharata* (roughness) and *Rukshata* (dryness) are observed. In *Pittaja* dominance, *Tamra* (coppery) and *Neela varna* (bluish discolouration) appear. In the *Kaphaja* condition, *Shweta varna* (whitish discolouration) with *Kandu* (itching) is seen, while in the *Rakta*-dominant condition, *Rakta* and *Tamra varna,* along with *daha* (burning sensation), are present.

Ayurvedic and contemporary correlation

Stage	*Samprapti*	Description	Modern Correlation
1	*Nidana Sevana*	Exposure to *krodha, shoka, ayasa, atapa sevana*	Stress, sun exposure, and hormonal changes trigger pigmentation
2	*Dosha Prakopa*	*Vata* and *Pitta* get aggravated	Melanocytes become overactive

3	*Dosha Prasara*	*Prakupita Doshas* undergo *Prasara* through *Srotas*	Signals that activate melanocytes circulate in the skin
4	*Sthanasamshraya*	*Prakupita doshas* undergo *sthanasamshraya* in the *raktavaha srotas* of the *twacha* in the *mukha pradesha*.	Pigmentation mainly occurs on the sun-exposed face
5	*Dosha–Dushya Sammurchana*	*Prakupita Doshas* combine with *Rakta* and *Twak*	Increased pigment production and deposition in the skin
6	*Vyakta (Lakshana)*	*Niruja, Tanu, Shyava Mandala* appear	Dark, painless patches appear on the face

➢ ***Samprapti ghataka***

1	*Dosha*	*Pitta (Bhrajaka),Vata (Udana, Vyana)*
2	*Dushya*	*Rasa, Rakta*
3	*Agni*	*Vishamagni, Rasadhatvagni, Raktadhatvagni*
4	*Ama*	*Dhatwagnimandhya Janya*
5	*Srotas*	*Rasavaha, Raktavaha,*
6	*Srotodishti*	*Sanga, Vimarga gamana*
7	*Udbhava sthana*	*Amashaya gata*
8	*Sanchara sthana*	*Sarva shareera*
9	*Adhishtana*	*Twak (Lohita)*
10	*Vyakta sthana*	*Mukha pradesha (Lalata, Kapala, Nasa, Chibuka)*
11	*Rogamarga*	*Bahya (twak)*
12	*Roga swabhava*	*Chirakari*

➢ **Sadhya asadhyata**

The prognosis (*Sadhyasadhyata*) of *Vyanga* is not elaborately described in classical texts. However, based on general principles, it can be categorised as ***Kruchhra Sadhya*** because the condition is *Dwi-doshajam* (involving two doshas), *Dwi-Ashraya* (involving both internal and external pathways), and presents without *Upadrava* (complications).

➢ **Chikitsa**

The management of *Vyanga* aims at correcting doshic imbalances, purifying *Rakta Dhatu*, and improving skin complexion.

As per classical references, the *Chikitsa Sutra*—*"**Siravedhaih pralepaischa tatha abhyangairupaacharet**[15]"*—indicates that procedures such as *Siravyadha* (bloodletting), *Lepa* (topical applications), and *Abhyanga* (therapeutic massage) are beneficial in the treatment of *Vyanga*. In addition, *Ashtanga Hridaya* recommends *Navana Nasya* with *Markava Swarasa*, *Kshira*, and *Toya* as an effective therapeutic modality.[16]

***Vyanga* can be managed through three main methods**

1. ***Nidana Parivarjana* –** Avoidance of causative factors such as *krodha*, *shoka*, *ayasa*, and *pitta and vata prakopaka* and *raktadushtikara ahara-vihara*, thereby preventing further progression of the disease.
2. ***Shodhana Chikitsa*** – Purificatory therapies like *Vamana, Virechana*, *Nasya*, and *Raktamokshana* are used to remove vitiated doshas from their root level. However, in conditions like *Vyanga*, where there is no *Bahu Dosha Avastha* (large accumulation of doshas), strong or classical *Vamana* and *Virechana* are not always advisable. Instead, ***Sadhyo Vamana*** and ***Sadhyo Virechana*** (milder and quicker forms of purification) are preferred, as they help remove the vitiated doshas gently without causing excessive weakness or depletion.

Since *Vyanga* is predominantly a *Vata–Pitta and Rakta Dushti* condition, these modified therapies help in expelling aggravated *Pitta* through *Sadhyo Virechana*, balancing *Vata* through *Sadhyo Vamana* and *Nasya*, and directly purifying *Rakta* through *Raktamokshana*.[17] This results in improved circulation, removal of internal toxins, and correction of the pathology, thereby preventing recurrence of the *vyadhi* and enhancing the *prakruta varna* and *tvak prasadana*.

3. ***Shamana Chikitsa* –** Palliative management through internal medications and external applications such as *Lepa*, medicated *Taila*, and *Abhyanga*, which help reduce discolouration and enhance *varna* (complexion) and *kanti* (lustre) of the skin.

In addition, *Ashtanga Sangraha* describes *dosha*-specific management of *Vyanga* as follows:[17]

a. ***Vataja Vyanga*** – managed with *Pana* (internal medication), *Abhyanga*, *Navana Nasya*, and *Pralepa* to pacify *Vata*.
b. ***Pittaja Vyanga*** – treated with *Pana*, *Abhyanga*, *Navana Nasya*, along with *Vamana*, *Virechana*, *Rudhiravasechana* (bloodletting), and *Lepa* to eliminate aggravated *Pitta* and purify *Rakta*.
c. ***Kaphaja Vyanga*** – managed through *Pana*, *Navana Nasya*, *Abhyanga*, and *Pralepa* to reduce *Kapha*.
d. ***Raktaja Vyanga*** – treated with *Abhyanga*, *Siravyadha* (*Raktamokshana*), *Vamana*, and *Virechana* for effective *Rakta shodhana*.

Management of *Vyanga* as explained in different Samhitas

Treatment modalities	*Ca.Sa*	*Su.Sam*	*Astanga Hrudaya*	*Astanga Sangraha*	*B.P*	*Y.R*	*B.R*	*Chakra datta*
Lepa	-	+	+	+	+	+	+	+
Abyanga	-	-	+	+	+	+	+	+
Pradeha	-	+	-	-	-	-	-	-
Pana	-	-	-	-	-	-	-	-
Nasya	-	-	+	+	-	-	-	-
Raktamokshana	-	+	+	+	+	-	-	+
Vamana	-	-	-	+	-	-	-	-
Virechana	-	-	-	+	-	-	-	-

Different yogas explained for *Abhyantarartha*[16,17]

Procedure	Yogas	References
Nasya[16]	➢ Fresh juice of *Bhringraj* mixed with milk or water, ➢ *Kumkumadi Taila*	*Ashtanga Hridaya-Uttarasthana* - 32/33
Pana and *Nasya*[17]	1. *Vataj Vyanga: Devdaryadi Sneha* 2. *Pittaj Vyanga: Baladi Sneha* 3. *Kaphaj Vyanga: Dashmooladi Sneha*	*Ashtang sangrah Uttar Sthan* -37/25, 27, 31.

➢ **Shamanoushadhi**

Following the administration of ***Sadhyo Vamana***, ***Virechana***, and ***Nasya***, ***Shamana Aushadhis*** are prescribed to eliminate any residual ***Doshas***, depending on their vitiation.

List of different *yogas* explained in the classics

❖ *Avalehya kalpa* - *Avaleha* works by strengthening the *Agni* (digestive fire). A *prakruta Agni* ensures the proper formation of *Rasa* and *Rakta Dhatus* (essential body tissues). These *dhatu* nourish the skin and help restore its natural complexion.

1.	*Agastya hareetaki*	*Varnya*	*Ca.Ci.18/57-62* *S.M.8/31-37* *A.H.Ci.3/127-132*
2.	*Chavana prasha*	*Varnya* *Kanti vardhaka*	*Ca.Ci.1/1/62-74* *A.H.U.39/33-41*
3.	*Kushmandavalehya*	*Varnya*	*YR.Pu Raktapittadikara 59/1-7*

❖ *Asava arishta* – are useful in *Vyanga* when *Agnimandya* and *Kapha anubandha* are present. Due to *Sukshma* and *Vyavayi guna*, they enter the *Srotas* quickly and act throughout the body. They are especially helpful in *Kapha-pradhana Avastha.*

1)	*Abhayarishta*	*Varnya*	*Ca.Ci.14/138-143*
2)	*Duralabhasava*	*Varnya*	*Ca.Ci.15/152-155*
3)	*Drakshasava*	*Varnya*	*YR.Pu.Grahani adhikara48/1-6*
4)	*Kanakarishta*	*Kantiprada*	*YR.UKushtadhikara 19/152*

5)	*Triphaladhyarishta*	*Varnya*	*Ca.Ci.12/39-40*
6)	*Takrarista*	*Varnya*	*Ca.Ci.14/72-75* *A.H.Ci.8/45-47*

- *Ghritha Yoga* - *Ghritha* is the best *Pitta-Vata Hara* medicine for Vyanga. Its *Sheeta* guna pacifies *Bhrajaka Pitta* and restores *prakruta varna*. The *Snigdha guna* alleviates *Ruksata* and nourishes *Dhatus*. Due to *Sukshma guna*, it penetrates *Srotas* and promotes *prasanna varna*.

1)	*Amalaka ghrita*	*Varnya*	*Ca.Ci.1/2/4*
2)	*Amritaprasha gritha*	*Varnya*	*Ca.Ci.11/35-43*
3)	*Lakshadi gritha*	*Vyanga nashaka*	*Su.Ci.25/38-42*
4)	*Mahatikthaka gritha*	*Vyanga nashaka*	*A.H. Ci.19/8-10*
5)	*Nelinyadhya ghrita*	*Vyanga nashaka*	*Ca.ci 5/106-109* *A.H.Ci.14/55-58*
6)	*Thiktaka gritha*	*Vyanga nashaka*	*A.H. Ci.19/2-7*

- *Taila yoga* - Oils are mainly used for *Varnya* (improving complexion). Use *Taila* as a local application or for *Nasya*. It is the first choice for *Vata* dominance, especially when the skin is *Ruksha***,** and the patches are *shyava* in nature.

1)	*Brihat marichadi thaila*	*Vyanga nashaka*	*YR.U.Kushtadhikara19/195*
2)	*Kumkumadi taila*	*Vyanga nashaka*	*A.H.Ci.32/27-30* *BP.M.61/46-51*
3)	*Eladi thaila*	*Varnya*	*YR.P.Vatavyadi adikara84/3*
4)	*Manjistadi thaila*	*Varnya*	*YR.UKshudrarogadhikara23/142*

- Different *lepa* - *Lepa* in *Vyanga* is used as *Sthanika Chikitsa* for *mukha vaivarnya*. It acts on *Twacha* and *Bhrajaka Pitta*, reducing *shyava varna* and promoting *varna-prasadana*.

1.	***Arjunadi lepa***	***Vyanga nashaka***	***YR.UKshudrarogadhikara23/128***
2.	*Arjunatwagadi lepa*	*Vyanga nashaka*	*S.U.11/12* *A.H.Ci.32/16*
3.	*Arkaksheeradi lepa*	*Vyanga nashaka*	*S.U.11/13*
4.	*Ashwakuraja lepa*	*Vyanga nashaka*	*A.H.Ci.32/16*
5.	*Baladi lepa*	*Vyanga nashaka*	*Su.Ci.20/34*
6.	*Jaatiphala lepa*	*Vyanga nashaka*	*BP.M.61/42*
7.	*Jeerakadi lepa*	*Vyanga nashaka*	*A.H.Ci.32/18*
8.	*Kapitha- rajadana lepa*	*Vyanga nashaka*	*Su.Ci.20/36*
9.	*Kusta maturlunga lepa*	*Vyanga nashaka*	*A.H.Ci.32/20*
10.	*Manjishta-madhu lepa*	*Vyanga nashaka*	*BP.M.61/40*
11.	*Masoorakhsiradi lepa*	*Vyanga nashaka*	*A.H.Ci.32/19*
12.	*Matulungadi lepa*	*Vyanga nashaka*	*YR.UKshudrarogadhikara23/131*
13.	*Musalijatadi lepa*	*Vyanga nashaka*	*A.H.Ci.32/21*
14.	*Padmakaadi gana lepa*	*Vyanga nashaka*	*A.H.Ci.32/31-32*

15.	*Shasharudira lepa*	*Vyanga nashaka*	*A.H.Ci.32/20 BP.M.61/41*
16.	*Tribhuvana vijayaadi lepa*	*Vyanga nashaka*	*BP.M.61/137*
17.	*Vatankura-masura lepa*	*Vyanga nashaka*	*BP.M.61/40*
18.	*Matulungadi lepa*	*Varnya Kantiprada*	*S.U.11/10*

- ***Varnya Prasadana Gana* as Described in Various *Samhitas***

Varnya maha kashaya Charaka Samhita, Sutra Sthana 4/8(4)	*Chandana, Tunga, Padmaka, Usheera, Madhuka, Manjistha, Sariva, Payasya, Sita, and Lata.*
Eladi gana Sushruta Samhita, Sutra Sthana 38/24-25	*Ela, Tagara, Kushtha, Mamsi, Dhyamaka, Twak, Patra, Nagapushpa, Harenuka, Vyaghranakha, Shukti, Sthauneyaka, Guggulu, Sarjarasa, Turushka, Shriveshtaka, Aguru, Sprikka, Choraka, Hribera, Prishniparni, Punnaga, Kesara*
Lodhradi gana Ashtanga hrudaya Su.15/26-27	*Lodhra, Sabarakalodra, Palasha, Jingini, Sarala, Katphala, Kutsitambha, Kadali, Asoka, Elavalu, Paripelava, Mocha*

- Mode of action of procedures in *Vyanga*

1. Lepa (Sthanika Chikitsa)

Lepa acts primarily at the level of *Twacha* and *Bhrajaka Pitta*, which is responsible for prakrutha *varna* of *twacha.*[19] Application of *Lepa* facilitates *Sthanika Dosha pachana*, specifically targeting *Pitta* and *Rakta*, which are the primary *Dosha-Dushya* involved in *Vyanga*.

Depending on the *dravya*, Lepa possesses *Sheeta, Tikta, Kashaya, Lekhana*, and *Raktaprasadana guna*, reducing *shyava varna*. Its prolonged contact allows the medicinal potency to penetrate the *Romakupa* (hair follicles) and *Srotomukha* (pore openings), leading to effective localised action.[18]

Modern view: *Lepa* keeps the outer skin layer (stratum corneum) well-hydrated, loosens the skin barrier, and helps medicines penetrate more easily. This allows active phytochemical compounds to reach melanocytes, reduce excess melanin production, and aid skin repair.[21]

2. Abhyanga

Abhyanga is described as *Vata-hara* (pacifying Vata), *Tvaka-prasadana* (clarifying the skin), and *Dridhata-kara*[20] (providing strength). In the pathology of *Vyanga*, *Vata Dosha* contributes significantly to *Rukshata* (dryness) and *Varna Vikriti* (discolouration).

The therapeutic actions of *Abhyanga* include

- *Vata Shamana*: Reduces *rukshata* of the *twacha*.
- *Srotomruduta*: Softens and clears the *Srotas* (micro-channels).
- *Rakta Sanchara Vardhana*: Enhances blood circulation and tissue nourishment.
- Act on *Bhrajaka Pitta*: Normalises the function of *Bhrajaka Pitta* to restore natural complexion.

Through these mechanisms, *Abhyanga* restores *Dhatu Poshana* (tissue nutrition) and improves *Twak Samhanana* (skin texture and integrity).

Modern view: The mechanical action of massage increases local blood circulation and raises skin temperature. This induces vasodilation and improves skin permeability, thereby significantly enhancing nutrient delivery to cells and increasing the transdermal absorption of medicated oils.[21]

3. Nasya (Urdhvajatrugata Chikitsa)

"***Nasa hi shiraso dvaram***"[23] shows that *Nasya* is the main therapy for diseases of the head and face. In *Vyanga*, it acts as a local cleansing and nourishing treatment.

Actions

- *Dosha shodhana***:** removes vitiated *Doshas* from the upper body
- *Sroto shodhana***:** clears channels of the facial region
- *Varna prasadana***:** improves skin complexion

By clearing Doshas in the channels that supply the face, *Nasya* helps restore a normal complexion.

Modern view: Drugs administered intranasally are absorbed quickly through the nasal lining and reach the head region directly, helping to improve blood flow and the function of facial tissues.[22]

4. *Raktamokshana (Rakta Dushti Nirharana)*-

Raktamokshana is indicated for the removal of *Dushta Rakta*, which plays a major role in *Tvak vikara.*[24] Since *Rakta* and *Pitta* have a close interrelationship (*ashraya–ashrayibhava*), removing impure blood helps in *Pitta shamana*. This leads to *Rakta shodhana* and improves *Tvak prasadana*, reducing discolouration.

Modern view: Removing vitiated blood lowers inflammatory substances and toxins in that area, improves microcirculation, and allows a fresh blood supply, which helps in improving skin clarity.[22]

3. MELASMA AND ITS TREATMENT

Melasma is a widely seen condition of hyperpigmentation caused by increased melanin production in the skin. It clinically presents as irregularly shaped, light to dark brown macules and patches distributed symmetrically over sun-exposed areas, particularly the face, including the cheeks, forehead, nose, upper lip, and chin, with occasional involvement of the neck and forearms. The term "melasma" is derived from the Greek word *"melas,"* meaning black, reflecting the increased pigmentation observed in this condition.[25]

➢ Epidemiology

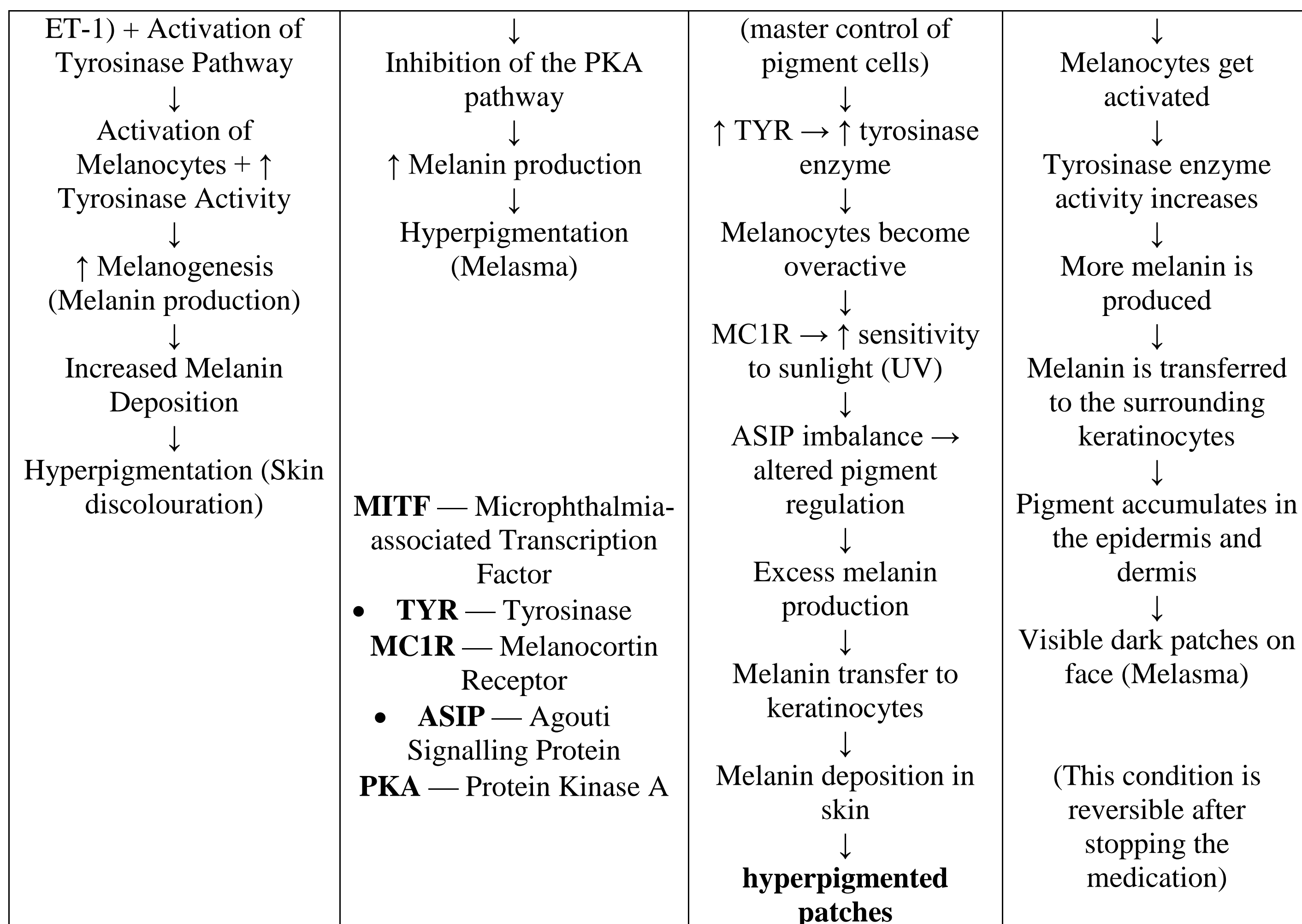
Melasma shows considerable variation in prevalence, ranging from approximately 1% in the general population to 9–50% among high-risk groups.[26] It is more frequently observed in women, particularly those with darker skin types (Fitzpatrick phototypes III–V)[27], and commonly occurs in individuals between the third and fourth decades of life.

Furthermore, a significant proportion of patients with melasma experience associated psychological conditions, with studies reporting that up to 76% may have depression, stress, or related disorders.[30]

➢ Etiology and pathophysiology

Although the etiology and pathogenesis of melasma are not fully understood, it is thought that melasma is a multifactorial disease. Major triggering factors include exposure to chronic ultraviolet (UV) light, female hormone stimulation, genetic influences, and drug-induced factors.[29]

1. UV radiation[30]	2. Female hormone[31,32]	3. Genetic influence[33]	4. Drug-induced[34]
UVA & UVB Radiation (Sun exposure) ↓ Stimulation of Keratinocytes + Histamine Release ↓ Release of Growth Factors (α-MSH, SCF,	Hormonal imbalance ↓ ↑ Estrogen levels ↓ Binding to ER2 (Estrogen Receptor 2) ↓ Activation of genes (MITF, TRP1, TRP2)	Family history ↓ Inherited genetic tendency (**MITF, TYR, MC1R, ASIP**) ↓ MITF activation	Drug intake (Phenytoin) ↓ The drug alters hormones or increases skin sensitivity to UV ↓ Skin becomes more reactive to sunlight



ET-1) + Activation of Tyrosinase Pathway ↓ Activation of Melanocytes + ↑ Tyrosinase Activity ↓ ↑ Melanogenesis (Melanin production) ↓ Increased Melanin Deposition ↓ Hyperpigmentation (Skin discolouration)	↓ Inhibition of the PKA pathway ↓ ↑ Melanin production ↓ Hyperpigmentation (Melasma) **MITF** — Microphthalmia-associated Transcription Factor • **TYR** — Tyrosinase **MC1R** — Melanocortin Receptor • **ASIP** — Agouti Signalling Protein **PKA** — Protein Kinase A	(master control of pigment cells) ↓ ↑ TYR → ↑ tyrosinase enzyme ↓ Melanocytes become overactive ↓ MC1R → ↑ sensitivity to sunlight (UV) ↓ ASIP imbalance → altered pigment regulation ↓ Excess melanin production ↓ Melanin transfer to keratinocytes ↓ Melanin deposition in skin ↓ **hyperpigmented patches**	↓ Melanocytes get activated ↓ Tyrosinase enzyme activity increases ↓ More melanin is produced ↓ Melanin is transferred to the surrounding keratinocytes ↓ Pigment accumulates in the epidermis and dermis ↓ Visible dark patches on face (Melasma) (This condition is reversible after stopping the medication)

5 Idiopathic

The etiology of melasma is frequently classified as idiopathic, accounting for the majority of male cases and roughly one-third of female presentations. In these instances, the specific underlying triggers remain unidentified despite clinical evaluation.[35]

➢ **Clinical features**

Melasma is a common acquired skin condition characterised by symmetrical, irregularly bordered hyperpigmented patches, typically appearing on sun-exposed areas of the face such as the cheeks, forehead, upper lip, and chin.[25]

Melasma is typically categorised into three clinical patterns based on the distribution of pigmentation on the face.[36]

I. **Centrofacial Pattern:** This is the most prevalent type, occurring in **63%** of cases. It involves the central areas of the face, including the forehead, nose, cheeks, chin, and upper lip.

II. **Malar Pattern:** Accounting for **21%** of patients, this pattern is more localized, specifically affecting the cheeks and the nose.

III. **Mandibular Pattern:** The least common variety, seen in **16%** of cases, where the pigmentation is primarily concentrated along the jawline (the ramus of the mandible).

➢ **Classification of melasma**[34]

Type	Color & Appearance	Depth of Pigment	Wood's Light Result	Treatment Outlook	Clinical Characteristics
1.Epidermal	**Light Brown**	Surface layers (Basal/Supra-basal)	**Highly visible** (Increased contrast)	**Most Effective**	Sharp, well-defined borders; usually responds within months.
2.Dermal	**Bluish-Gray**	Deep layers (Mid-dermis)	**Invisible** (No contrast change)	**Very Difficult**	Ill-defined, "fuzzy" borders; pigment is trapped in deep scavenger cells.
3.Mixed	**Dark Brown**	Both surface and deep layers	**Variable** (Patchy contrast)	**Partial/Slow**	The most common clinical presentation; requires a multi-layered approach.

➢ **Assessment**

Assessment begins with history taking, including duration, sun exposure, hormonal factors, drug use, and family history. Ultraviolet radiation and hormonal influences are major aggravating factors.[37,38] Clinical examination reveals symmetrical, well-defined hyperpigmented patches.

Severity is commonly assessed using the Melasma Area and Severity Index (MASI), which evaluates area, darkness, and homogeneity across four facial regions.[38,39]

- MASI Score

Score	**0**	**1**	**2**	**3**	**4**	**5**	**6**
Darkness of pigment (D)	None	Slight	Moderate	Marked	Very marked		
Homogeneity of pigment (H)	No pigmentation	Specks	<2 cm patches	>2 cm patches	Homogenous		
Surface area involved (A)	0%	<10%	10–29%	30–49%	50–69%	70–89%	90–100%

Site involved	forehead	Rt.malar	Lt.malar	Chin
Melasma area (scale 1-6) Multifaction factor (MF)	0.3	0.3	0.3	0.1

MASI Formula

$$MASI = 0.3(D_F + H_F)A_F + 0.3(D_{RM} + H_{RM})A_{RM} + 0.3(D_{LM} + H_{LM})A_{LM} + 0.1(D_C + H_C)A_C$$

- **Range:** 0–48 (higher score = severe disease)[38,39]

Wood's lamp examination helps assess pigment depth, while **Dermoscopy** shows pigment network and vascular features.[37] The **MelasQoL scale** is used to evaluate quality of life, which is often significantly affected in melasma patients.[38]

➢ **Treatment of melisma**

Melasma is a chronic acquired hyperpigmentation disorder that needs a combination of treatments and regular maintenance rather than a permanent cure. Current therapeutic strategies include photoprotection, topical depigmenting agents, systemic therapies, and procedural interventions.[40,42]

1. Photoprotection

Strict photoprotection is the cornerstone of melasma management. Ultraviolet (UV) and visible light stimulate melanogenesis, thereby worsening pigmentation. Regular use of broad-spectrum sunscreen (SPF ≥30) significantly reduces disease severity and recurrence.[40,42]

2. Topical Therapy (First-Line Treatment)

✓ **Hydroquinone-** Hydroquinone remains the gold standard depigmenting agent. It acts by inhibiting tyrosinase, thereby reducing melanin synthesis. Clinical improvement is typically observed after 5–7 weeks of therapy.[43]

✓ **Triple Combination Therapy**

The combination of hydroquinone, tretinoin, and corticosteroid is regarded as the most effective treatment modality, showing superior efficacy compared to monotherapy.[40]

✓ **Other Topical Agents**

Alternative or adjunctive agents include

- Azelaic acid
- Kojic acid
- Retinoids

- Vitamin C
- Niacinamide

These agents act via antioxidant effects or inhibition of melanogenesis and are often used in combination regimens.[41]

3. Systemic Therapy

Tranexamic Acid

Oral tranexamic acid has emerged as a promising systemic treatment, particularly in resistant or recurrent melasma. It reduces melanocyte activity by inhibiting plasminogen activation pathways and shows significant clinical improvement.[44,45]

4. Procedural Therapies

✓ Chemical Peels

Superficial chemical peels (e.g., glycolic acid) are used as second-line treatments and enhance the penetration of topical agents.[42]

✓ Laser and Light Therapies

Laser and light-based therapies may be beneficial in selected cases; however, outcomes are variable, and there is a risk of post-inflammatory hyperpigmentation, particularly in darker skin types.[40]

5. Treatment Strategy and Maintenance

Melasma requires long-term maintenance therapy due to its chronic and relapsing nature. Standard management includes:

- Continuous sunscreen use
- Intermittent depigmenting therapy
- Avoidance of triggers such as sun exposure and hormonal influences

Combination therapy is generally more effective than monotherapy, and individualised treatment plans are recommended.[40,42]

4. DISCUSSION

The *lakshanas* of *Vyanga—Niruja* (painless), *Tanu* (thin), and *Shyava mandala* (dark patches)—indicate a localised disturbance of skin pigmentation caused by both internal and external factors. These features closely resemble melasma, a common hyperpigmentation disorder seen on sun-exposed areas of the face. Both conditions mainly affect facial

appearance and can impact a person's confidence and psychological well-being.

✓ Pathogenesis of *Vyanga*

In Ayurveda, *Vyanga* develops through a stepwise process. It begins with *Nidana Sevana* (exposure to causative factors), such as *Atapa Sevana* (excess sun exposure), which leads to *Kha Vaigunyata* (weakness in the channels) in the facial region. This allows aggravated *Vata* and *Pitta Dosha* to undergo *Urdhvagamana* (upward movement) and localise in the *Twacha*, especially in the second layer of *Twacha* called *Lohitha*. The disturbance of *Bhrajaka Pitta* at this level results in *Vaivarnyata* (discolouration), producing the characteristic dark patches seen in *Vyanga*.

From a modern perspective, melasma develops mainly due to ultraviolet (UV) radiation, hormonal changes, and genetic factors. UV exposure stimulates melanocytes, increasing melanin production through activation of enzymes like tyrosinase. This leads to deposition of pigment in the skin, resulting in dark patches similar to *Vyanga*.

✓ Role of Psychological Factors

Ayurveda highlights the importance of *Manasika Nidana* (psychological factors) in the development of *Vyanga*. Emotional factors such as *Krodha* (anger) and *Shoka* (grief) aggravate *Vata* and *Pitta*, which in turn contribute to skin changes. This shows that *Vyanga* is not only a physical condition but is also closely related to mental and emotional health.

Similarly, in melasma, psychological stress is considered an aggravating factor. Stress can influence hormonal balance and increase the severity of pigmentation. Many patients with melasma experience reduced self-esteem and emotional distress due to its visible nature.

✓ Principles of Management

The management of *Vyanga* focuses on correcting the imbalance of *Vata*, *Pitta*, and *Rakta*. Along with *Nidana Parivarjana* (avoidance of causative factors), both *Shodhana* and *Shamana Chikitsa* are important. *Shodhana* therapies such as *Virechana* and *Raktamokshana* help in eliminating vitiated *Doshas* from the body and purifying the *Raktavaha Srotas*, thereby reducing recurrence. *Shamana Chikitsa* supports this process by improving skin complexion and maintaining balance.

In modern management of melasma, treatment mainly includes photoprotection (use of sunscreen), topical depigmenting agents like hydroquinone, and procedures such as chemical

peels and laser therapy. However, these treatments often provide temporary improvement and have a higher chance of recurrence. In contrast, *Ayurveda* aims at treating the root cause, offering a more long-term and holistic approach.

✓ Mode of Action of Therapies

The effectiveness of Ayurvedic treatments can be understood through their local and systemic actions:

- *Lepa* (external application): Acts locally on the skin by entering through *Romakupa* (hair follicles) and *Srotomukha* (pores), helping in *Sthaniya Dosha Pachana* and improving complexion. It also enhances hydration and supports better absorption of active components.
- Abhyanga (massage): Enhances *Rakta Sanchara* (blood circulation), reduces *Rukshata* (dryness), and supports deeper penetration of medicated oils. Improved circulation helps in better nourishment of skin tissues.
- Nasya (nasal therapy): As *"Nasa hi Shiraso Dvaram"*, it directly acts on the head and facial region, clearing channels and improving *Varna Prasadana* (skin clarity).
- Raktamokshana**:** Removes *Dushta Rakta*, reduces *Pitta*, and allows fresh blood circulation, thereby improving skin health and reducing discolouration.

From a modern viewpoint, these therapies may improve microcirculation, enhance transdermal drug delivery, and help regulate melanocyte activity, thereby reducing pigmentation and improving overall skin quality.

5. CONCLUSION

After reviewing both *Ayurveda* and contemporary literature regarding *Vyanga* and melasma, it can be concluded that *Vyanga* and melasma show close similarities in their clinical features and causes, and can be successfully treated with the strong principles of *Ayurveda*, along with a better understanding of diagnosis, severity of disease and progression of the disease by using contemporary knowledge and diagnostic tools.

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