



THE ROLE OF TRANS-NASAL ADMINISTRATION IN THE MANAGEMENT OF HYPERPIGMENTATION -A CASE STUDY

*Dr. S.S.Kalyani¹, Dr. MANU R², Dr C.R. Honawad³

1. PhD Scholar Department of Kayachikitsa Parul Institute of Ayurveda, Parul University, Limda,
Waghodia, Vadodra, Gujarat-391760

2. Professor & Head of Department of PhD Studies in Kayachikitsa.

Parul Institute of Ayurveda, Parul University, Limda, Waghodia, Vadodra, Gujarat-391760

3. Professor Department of Rasashastra and Bhiashajya kalpana BVVS Ayurveda Medical College and
Hospital Bagalkot

Article History: Received:12/09/22

Revised:29/10/22

Accepted: 15/11/22

ABSTRACT:

Back ground: Melasma characterized by hyper pigmented brown to grayish brown macules on the face. It occurs mainly in women 90% and 10% of male of all ethnic and racial groups. *Vyanga* can be clinically correlated to Melasma. *Vyanga* is one among *Kshudra Roga* characterized by *Niruja, Tanu, Shyava Varnayukta Mandala on Mukha Pradesha*. In contemporary science, treatment modalities are used frequently and for longer duration which is financial and social burden to patient even may cause severe adverse effects. So to explore safe and effective treatment for the patients of *Vyanga*, present study undertaken i.e. effect of Kanaka Taila Nasya in *Vyanga*.

Case summary: A 28 years old male, known case of hyperpigmentation for one year has attended OPD of Kayachikitsa was presented with complaints of hyperpigmentation over both the cheeks for one year. He did not take any treatment. The total study period was 40 days. The patient was assessed before and after the treatment. Patient had shown significant improvement in symptoms like darkness, area involvement, itching and dryness. Subjective and Objective parameters of the study was observed and assessed with the criteria as per the modern parameters

Conclusion: Ayurveda, in the field of cosmetology is a promising aspect of practice. This single case study shown significant result. It surely can lead to find out solution of different problems in the field of cosmetology with Ayurvedic treatment.

Key words: Hyperpigmentation, Ayurveda, *Vyanga*, *Kanaka Talia*, *Pratimarsha Nasya*.

DOI: 10.48047/ecb/2022.11.11.49

Introduction

Hyperpigmentation (*Vyanga*) is a common, usually harmless condition in which patches of skin become darker in colour than the normal surrounding skin. This darkening occurs when an excess of melanin, the brown pigment that produces normal skin colour, forms deposits in the skin. Hyperpigmentation can affect the skin colour of people of any race¹. It occurs mainly in women in 90% of cases and 10% of males of all ethnic and racial groups. Hyperpigmentation can be caused by using oral contraceptives and hormones². It is rare before puberty and more common in reproductive years. The prevalence varies between 1.5% and 33% depending on the population³.

Face the most important and beautiful organ of the body is affected by certain anomaly at the any age of the life. Early physical and psychological precautionary measures are essential in either of the sexes, as any minor ailment may affect from unattractive look to a permanent disfigurement, which may result in inferiority complex or sometimes even isolation. The disease 'Vyanga' is one such disease counted under Kshudra roga⁴.

In Ayurveda, Hyperpigmentation can be co-related to Vyanga, It is a Kshudraroga and a Rakta pradoshaja vikara. It mainly affects the facial skin and characterised by Niruj(Painless), Tanu(Thin), Shyava varna mandala(Brownish-black patch) on face⁵. Which is produced due to the vitiation of Vata, Pitta, Rakta and psychological factors like krodha, shoka, chinta and ayasa⁶. These causative factors vitiates doshas and manifests the dark pigmentation on the face.

Management of hyperpigmentation includes an external application of cream containing 2% hydro quinine (HQ) and hydrocortisone. Sometimes these drugs produce so many adverse effects like contact dermatitis, irritation, leucoderma etc and found to be sensitive in few patients. It is expensive and used frequently for longer duration. These treatment modalities are used frequently and for longer duration which is financial and social burden to the patient.

In Ayurveda types of treatment modalities are explained like Nasya, Virechana, Lepa and Raktamokshana. Nasya is one among them, as it is directly acts on Shira(head). Kanaka taila is explained in Bhaishajya ratnavali and indicated in Vyanga⁵. The ingredients of kanaka taila are sheeta virya, madhura vipaka and varnya kara so, it increases the complexion of the face and reduce the pigmentation⁷. The study aims at finding the role of Kanaka taila pratimarshya nasya in the management of hyperpigmentation

Case report:

A 28 years old male , known case of hyperpigmentation for one year. He has attended OPD of Kayachikitsa. She was presented with complaints of hyperpigmentation over both the cheeks for one year. He did not take any treatment earlier to the visit.

History of present illness

Patient was apparently asymptomatic before one year ago. He gradually developed brownish painless patches on both cheeks and also associated symptoms like itching and dryness in the affected parts of face. The patient explained factors like burning sensation whenever he exposed to bright sunlight and observed there is increased pattern of darkness on face. He did not take any allopathic medicine. He consulted our hospital for better line of ayurvedic treatment

Past history

No any significant systemic disorders like Diabetes mellitus, Hypertension and no history of allergy, accident or trauma.

Examination of Patient

The patient is unmarried, age is 28 years, his education is post graduation and socio economic status of the patient is middle class. He came to our hospital with the complaints of brownish painless patches on both cheeks and also associated symptoms like itching and dryness in the affected parts of face. The patients

explained aggravating factors like burning sensation whenever he exposed to bright sunlight and observed there is increased pattern of darkness on face. He used to consume mainly pittakarak ahara and vihara (mixed diet) with occasional krodha (anger) and chinta(worry). Loss of appetite. He was observed to be slightly depressed. No relevant family history, bowel habits and micturation was normal. On physical examination the general condition of patient was good with normal cardiovascular and respiratory functions.

Dashavidha parikshabhava

- Prakruti:** Kapha-Pitta
- Vikriti:** Vata-Pitta
- Sara:** Mamsa and Medha sara
- Samhanana:** Madhyama
- Pramana:** Madhyama
- Satmya:** Madhyama
- Ahara shakti:** Madhyama
- Vyama shakti:** Madhyama
- Vaya:** Madhyama
- Samprapti Ghataka**
- Dosha:** Vata, Pitta,Rakta
- Dushya:** Twaka, Rasa,Rakta
- Srotas:** Rasavaha, Raktavaha
- Agni:** Mandagni
- Rogamarga:** Bahya
- Sadhyasadhyta:** Sadhya

Intervention

Kanaka taila pratimarshya nasya dose is 2 drops in each nostril was given for 30 days, every day evening continuously. Follow up of the patient was done after 15th day and 40th day. Total duration of the study is 40 days

Assessment Criteria

The assessment was done on the basis of both subjective (Table 1) and objective parameter described below Melasma Area Severity Index (MASI)⁸ (Table 6) which assess the percentage of total area involved based on three variables (Table 2-4)

GRADINGS FOR ASSESSMENT OF SUBJECTIVE PARAMETERS:

Table 1: Assessment of subjective parameters

Sl. No	Symptom	0	1	2	3
1	Mukhamagatya mandalam (patches)	No patches	1 to 2 patches	3 to 4 patches	5 to 6 patches
2	Shyava varna (pigmentation)	No shyava	Mild pigmentation	Moderate pigmentaion	Severe Pigmentation

		varna			
3	Kandu(itching)	No kandu	Very mild itching	Mild itching	Moderate itching
4	Parusha sparsha (Dry skin)	No dry skin	Mild dry skin	Moderate dry skin	Severe dry skin

GRADINGS FOR ASSESMENT OF OBJECTIVE PARAMETER:**Table 2: Percentage of Area involved (A)**

	SCORE
No involvement	0
Less than 10%	1
10-29%	2
30-49%	3
50-69%	4
70-89%	5
90-100%	6

Table 3: Darkness(D)

	SCORE
Absent	0
Slight	1
Mild	2
Marked	3
Severe	4

Table 4: Homogeneity (H)

	SCORE
Minimal	0
Slight	1
Mild	2
Marked	3
Severe	4

Table 5: Assessment on subjective parameters

SYMPTOMS	B/T 1 st day	On 15 th day	A/T 31st day
MukhamaagatyaMandalam (circumscribed Hyper pigmented patches on the face)	1	1	1
Shyavavarna (Brownish pigmentation)	3	3	1
Kandu (Itching)	1	0	0
ParushaSparsha (Dry skin)	1	0	0

TOTAL MASI SCORE = 0.3(Df+Hf) Af+0.3 (Dmr+Hmr) Amr + 0.3(Dml+Hml) Aml + 0.1(Dc+Hc)Ac.

D-Darkness f - Forehead
 H-Homogeneity mr - Right malar
 A-Area ml - Left malar
 c – Chin

Table 6: Assessment of MASI Score

Area	Area involved		Darkness		Homogeneity		Masi Score	
	BT	AT	BT	AT	BT	AT	BT	AT
Forehead	0	0	0	0	0	0	0	0
Right malar	3	3	4	2	4	3	7.2	4.5
Left malar	3	3	3	1	3	3	7.2	4.5
Chin	0	0	0	0	0	0	0	0
Total MASI SCORE							14.4	09

Results

After the treatment there was significant result (Figure 1) in the area of involvement, darkness, homogeneity and associated symptoms like dryness, itching and burning sensation reduced. It shows that there is significant relief in subjective (Table 5) and objective parameters (Table 6)of the disease Vyanga. Hence, Kanaka taila Pratimarsha Nasya is highly effective for the management of Vyanga.



Figure 1: Photo of the patient Before and After treatment

Discussion

In this case the patient is unmarried, age is 28 years and he is doing post graduation. He used to consume mainly pittakarak ahara and vihara (mixed diet) with occasional krodha (anger) and chinta(worry). Loss of appetite. He was observed to be slightly depressed by considering all these nidanas, vitiates vata, pitta and rakta along with rasavaha and raktavaha srotas. These doshas accumulated in the twacha of face and manifest the Niruja(painless), Tanu(Thin), Shyava varna mandalas on both the cheeks. Treatment was planned after assessing nidana and samprapti of the disease. Kanaka taila pratimarshya nasya was given for 30 days, dose is 2 drops in each nostril day evening.

Nasa is the doorway to shira⁹. Kanaka taila pratimarsha nasya administered through nasal route reaches Shrunghataka spreads in Murdha and absorption through the receptor cell of olfactory mucosa, sensory receptor of trigeminal nerve and circulation of drug through neuronal or circulatory pathway¹⁰. It stimulate the Hypothalamo-Endocrine axis, which shows action on regulation of endocrine system and nervous system and it inhibits the excessive secretion of melanin, helps to remove vitiated Doshas¹¹. The drug administered through the nose may have an impact on blood circulation. As efferent vasodilator nerves are spread out on the superficial surface of the face which after stimulation at surface of the face, there is increased blood flow to the brain and enters in blood circulation thus it acts on Rasa, Rakta Dhatu and helps to mitigate the Doshas¹². This result in better circulation and nourishment of the organs and the disease will subside.

Table 7: Contents of Kanaka taila¹³

Sanskrit name	Botanical name
Madhuka	Glycyrrhiza glabra Linn
Priyangu	Callicarp amacrophylla Vahl
Manjista	Rubiocordifolia Linn
Rakta chandana	Pterocarpussantalinus Linn
Kamala pushpa	Nelumbonucifera Grertn
Nagakesaras	Mesuaeferra Linn
Tilataila	Sesamum indicum

The ingredients of Kanaka taila have tridoshak shamaka, Raktaprasadana' Varnya property, Sheeta veerya and Madhura Vipaka¹⁴. These drugs reduce vata, pitta and rakta doshas. So Kanaka Taila was given in the form of Pratimarsha Nasya¹⁵. It shows highly significant result in reducing hyperpigmentation and associated symptoms like itching and dryness and burning sensation on the affected part of the face. So, Kanaka taila enhance the complexion of the face without any adverse effects

Conclusion

The present study Kanaka taila pratimarshya nasya shows highly significant result in the management of hyperpigmentation. Avoiding nidanas and following proper pathya gives instant relief. Trans-nasal administration is effective and safest route of administration in the management of hyperpigmentation.

REFERENCE:

- 1) <https://www.aocd.org>
- 2) [https://www.researchgate.net/publication/343426821_A_CONCEPTUAL_STUDY_OF_VYANGA_MELA_SMA_IN_AYURVEDA_WSR_SAUNDARYA_OF_SKIN_CLINICAL_TYPES_\(2-01-2021\)](https://www.researchgate.net/publication/343426821_A_CONCEPTUAL_STUDY_OF_VYANGA_MELA_SMA_IN_AYURVEDA_WSR_SAUNDARYA_OF_SKIN_CLINICAL_TYPES_(2-01-2021)).
- 3) <https://www.ncbi.nlm.nih.gov/books/NBK459271>
- 4) [https://www.researchgate.net/publication/343426821_A_CONCEPTUAL_STUDY_OF_VYANGA_MELA_SMA_IN_AYURVEDA_WSR_SAUNDARYA_OF_SKIN_CLINICAL_TYPES_\(2-01-2021\)](https://www.researchgate.net/publication/343426821_A_CONCEPTUAL_STUDY_OF_VYANGA_MELA_SMA_IN_AYURVEDA_WSR_SAUNDARYA_OF_SKIN_CLINICAL_TYPES_(2-01-2021)).
- 5) Acharya Yadavji Trikamji, Sushruta Samhita with Nibandha Sangraha commentary by Dalhana, 8th edition, Varanasi, Choukhamba Sanskrit, Reprint- 2005, Pg no-318.
- 6) Kaviraj Shri Govinddas Sen: Kshudraroga Rogadhikara, Prof. Siddhi Nandan Mishra with Siddhiprada, hindi commentary. Bhaiasajhaya Ratnavali. Varansi: Chaukhamba Surbharati Prakashan, 2011. Chapter 60, shloka 122-123 pp 944.
- 7) Acharya Yadavaji Trikamji, Sushruta Samhita with Nibandha Sangraha commentary by Dalhana, 8th edition, Varanasi, Choukhamba Sanskrit, Reprint- 2005, Pg no-318.
- 8) <https://www.ncbi.nlm.nih.gov/books/NBK459271>
- 9) Acharya Yadavji Trikamji, Sushruta Samhita with Nibandha Sangraha commentary by Dalhana, 8th edition, Varanasi, Choukhamba Sanskrit, 2005, Pg no-324.
- 10) Shri Laxman Pandit: Kshudraroga Rogadhikara, Prof. P.V.Tewari and Dr. Asha Kumari. Yogachandrika.

Varanasi: Chaukhamba Visvabharati Prakashan, 1998. Chapter 34, Sholka 10-12, Pg no- 424

- 11) <https://www.ncbi.nlm.nih.gov/books/NBK459271>
- 12) Sharma RK, 2011, Charaka, Charaka samhita, siddisthana 2nd chapter, Bhagawan das chowkambha Sanskrit series, 22nd shloka 6/202
- 13) Murthy KRS, 2012, Vagbhata, Astangasanghra, sutra sathana, 29th chapter, chowkamba orientalia 2nd shloka 1/511
- 14) Shivaprasad Sharma, ed, Astanga sangraha, uttaratantra, 36/29, 19th ed, 2000, Varanasi, chowkambha sanskrot series, pp 815.
- 15) Shri Laxman Pandit: Kshudraroga Rogadhikara, Prof. P.V.Tewari and Dr. Asha Kumari. Yogachandrika. Varanasi: Chaukhamba Visvabharati Prakashan, 1998. Chapter 34, Sholka 10-12, Pg no- 424