



The Effect of Nasal Administration on the Management of Melasma -A Case Study

Dr. S.S.Kalyani MD^{1*}  and Dr. Manu R. MD. PhD²

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

²Professor & Head of Department of PhD Studies in Kayachikitsa. Parul Institute of Ayurveda, Parul University, Limda, Waghodia, Vadodra, Gujarat-391760

Abstract: Melasma is commonest among hyperpigmentation diseases which presents as irregularly shaped, but often distinctly defined as blotches of light to dark-brown pigmentation. It is a very common chronic disorder usually seen in women of childbearing age which is a frustrating condition to the women. There are 12.3% to 19.4% of world population suffering with this problem. Vyanga is one of the kshudra roga and is explained by Acharya Sushruta as painless thin brown patches over face. While considering the pathogenesis of vyanga, involvement of pitta is more and it is a rakta pradoshaja vyadhi. Depending on the pathogenesis and asrayaasrayi bhava of doshas involved, nasya(nasal route) is mainly indicated. By doing the nasya (nasal route) it benefits in relieving the excess (pitta vriddi) pitta and also helps in varna prasadana(complexion). In this single case study, pratimarsha nasya was administered for 30 days continuously. The assessment criterias were noted before and after the treatment. Subjective parameters i.e Mukhamagatya mandalam (patches), Shyava varna(pigmentation), Kandu (itching), Parusha sparsha(dry skin) are the chief complaints of Vyanga and objective parameters such as MASI (Melasma area sevriarity index). Assessments are done before and after the treatment. Symptoms of Melasma (Vyanga) decreased and it showed clinical progressiveness of the treatment given. In our study we found Color (pigmentation) of the leision had shown improvement.

Keywords: Melasma, Ayurveda, Vyanga, Yastyadi Talia, Pratimarsha Nasya.

***Corresponding Author**

Dr. S.S.Kalyani MD (Ayu) , PhD Scholar Department of Kayachikitsa Parul Institute of Ayurveda, Parul University, Limda, Waghodia, Vadodra, Gujarat-391760



Received On 11 January, 2022

Revised On 10 May, 2022

Accepted On 26 April, 2022

Published On 05 May, 2022

Funding This research did not receive any specific grant from any funding agencies in the public, commercial or not for profit sectors.

Citation Dr. S.S.Kalyani MD and Dr. Manu R. MD. PhD , The Effect of Nasal Administration in the Management of Melasma -A Case Study.(2022).Int. J. Life Sci. Pharma Res.12(3), L136-141 <http://dx.doi.org/10.22376/ijpbs/lpr.2022.12.3.L136-141>

This article is under the CC BY- NC-ND Licence (<https://creativecommons.org/licenses/by-nc-nd/4.0/>)



Copyright @ International Journal of Life Science and Pharma Research, available at www.ijlpr.com

I. INTRODUCTION

Beauty is a characteristic of a person, place, object, or idea that provides a perceptual experience of pleasure, meaning, or satisfaction. The experience of "beauty" often involves the interpretation of some entity as being in balance and harmony with nature, which may lead to feelings of attraction and emotional well-being. But with the passage of time, the skin loses its fine texture, due to constant exposure to pollution, grime and the adversities of weather conditions and one of them is melasma. The term melasma is derived from the Greek root "melas", which means black. It is a chronic disorder that can be frustrating to patients and physicians alike because, as it is very difficult to treat. Melasma presents as irregularly shaped, but often distinctly defined, blotches of light- to dark-brown pigmentation. Most people get it on their cheeks, chin, nose bridge, forehead, and above the upper lip. Melasma is a very common cutaneous disorders, accounting for 0.25% to 4% of the patients seen in dermatology clinics in South East Asia and most common disorders in Indian¹. It is more common in women than men. Women are affected nine times more than men. Melasma is so common during pregnancy having a separate name for the condition called "chloasma". It's also commonly referred to as the "mask of pregnancy"² and the prevalence in pregnancy is around 50-70%³. It also affects woman taking oral contraceptives and hormones. Persons of any race can be affected. Melasma is more common in darker skin types than in lighter skin types and it is particularly more common in light brown skin types. Melasma is rare before puberty and more common in reproductive years. The prevalence varies between 1.5% and 33% depending on the population⁴. In Ayurveda, skin diseases were included under the heading of Kustha and Kshudra Roga⁵. Kshudra rogas have a simple hetu, lakshana and chikitsa. So, they are called as kshudra rogas. Some of the skin diseases are mentioned under kshudra rogas. Vyanga, is one among the Kshudra Roga⁵. Vyanga is the disease in which the facial skin complexion and glow decreases. Vyanga is known for thousands of years among all disease concerned with cosmetic problem. Even though Vyanga is a Kshudra Roga, it produces a great misery for the person due to the dark discoloration of the skin over face. Vyanga is a pathological situation of the facial skin which is produced due to the vitiation of Vata, Pitta and Rakta producing cardinal features such as Niruj(Painless), Tanu(Thin), Shyava mandala(Brownish-black patch) on face⁶. Nasya is one of the main chikitsa for Vyanga. Vyanga is a vyadhi in which, aggravated vata in association with pitta and produces mandala over the face. In contemporary science, treatment includes an external application of cream containing 2% hydro quinine (HQ) and hydrocortisone⁶. Sometimes tropical uses of drugs have many side effects like contact dermatitis, irritation, leucoderma⁷ etc and found to be sensitive in few patients. These treatment modalities were used frequently and for longer duration which is financial and social burden to the patient. Present generation individuals takes efforts in enhancing the appealing nature of the skin using many chemicals and artificial beauty agents, which not only harms the skin but requires knowledge of cosmetic science and skin properties, at the same time causes irreparable damage to skin. Besides the achievement of modern medical science, humanity is passing through a horror of disease and drug phobia, particularly in developing countries like India, where poverty and illiteracy account for the man's ignorance towards the principles of health care. Even then, the

advancement of modern medicine has failed in the treatment of certain dermatological disorders; they prescribe certain steroids which have adverse effect on the body rather than beneficial effects. Now, it is the time to highlight the Ayurveda in the world of cosmetic with its unique aspects. The adverse reactions of modern cosmetics and higher cost of therapy are also one of the causes to look towards Ayurveda for its humeral approach. Increased sophistication of today's population also increases the demand of cosmetics. By keeping the above points, prevalence of disease among younger and adult ages mainly in females than compared to males, there is a need for the remedy or therapy for the vyanga and from the results of some previous research works, it was understood that there was no permanent cure for all the symptoms of Vyanga. But, here an attempt is made to assess the role of pratimarsya Nasya in vyanga. Yastyadi taila contains pitta kapha shamaka properties and varna gana drugs. By administrating the Yastyaditailapratimarsya nasya, there would be beneficial in relieving the excess (pitta vriddi) pitta and also helps in varna prasadana. Ayurveda thus relatively suggested to be effective treatment in skin diseases. Hence present study proved scientifically the role of Pratimarsha Nasya with Yastyadi taila⁸ in the management of melasma with satisfactory result

2. CASE REPORT

A 30 years old female, known case of melasma since 4 years has attended OPD of Kayachikitsa. After taking the detailed history, She had been applying topical ointment for the same problem, but she did not find any changes. She was planned for pratimarsha nasya. During the total study period (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. Informed consent from the patient and Institutional ethical clearances from the committee was taken with the Ref. No PU/PIA/IEC/02/2021/035

2.1 History of Present Illness

Patient was asymptomatic before 4 years ago. She gradually developed brownish painless patches on both cheeks. She also had associated symptoms like itching and dryness in the affected parts of face. The brownish painless patches were symmetrically distributed on both the cheeks. From last 1 1/2 years, she noticed the pattern of discolouration has not changed, the colour darkened and stable in nature. She took some home remedies and local herbal applications along with topical ointment for one month, As she had noticed some improvement, she left the treatment and again the patches became darkened. she came to kayachikitsa OPD. After all the physical examinations, she was diagnosed as a case of Melasma.

2.2 Past History

No any history of Diabetes mellitus, Hypertension. She don't had any history of allergy, accident or trauma. Patient did not had any prescription of topical ointment.

2.3 Examination of Patient

Patient is unmarried woman of Hindu community from middle class family. she was doing post-graduation. She used

to consume mainly spicy and oily foods (mixed diet) with addiction to tea 5 to 6 cups daily. Appetite is reduced. There is no family history of melasma. Menstrual cycle was regular, bowel habits and micturition was normal. On physical examination, the general condition of patient was good with normal cardiovascular and respiratory function.

Dashavidha parikshabhava

Prakruti: Pitta-Kapha
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

2.4 Intervention

Treatment was planned after considering all the nidana, samprapti, dosha involvement, inclusion and exclusion criteria. Shamana nasya(Pratimarshya Nasya) was given for 30 days. Nasya dose is 2 drops each nostril, once in a day evening. Follow up of the patient was done after 15th day and 40th day.

2.5 Assessment Criteria

The assessment was done on the basis of both subjective (Table 1) and objective parameter that was described below Melasma Area Severity Index⁸ (MASI) which assessed the percentage of total area involved based on three variables (Table 2,3,4).

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 varna	Mild pigmentation	Moderate pigmentaion	Severe pigmentation
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

Table 2Gradings For Assessment Of Objective Parameter

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 31 st 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
H-Homogeneity
A-Area
c – Chin

f - Forehead
mr - Right malar
ml - Left malar

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	3	1	3	3	5.4	3.6
Left malar	3	3	3	1	3	3	5.4	3.6
Chin	0	0	0	0	0	0	0	0
Total MASI SCORE							10.8	7.2

BT: Before Treatment . AT: After Treatment

3. RESULTS

After completion of the treatment, there was satisfactory result in the area of involvement and pigmentation and MASI SCORE before treatment was 10.8 and after treatment was 7.2 (Table 6). Associated symptoms like dryness and itching

reduced (Table 5). It showed that there was relief in subjective and objective parameters of the disease Vyanga. Hence the selected medicine Yashtyadi taila Pratimarsa Nasya is found to be effective for the management of Vyanga (Figure 1).



Fig 1: Photo of the patient Before and After treatment

4. DISCUSSION

In this case, the patient is unmarried, age is 30 years and she was doing post graduation. The patient used to consume mainly oily, spicy foods, late night sleep, over thinking and these all nidanas led to prakopa of vata, pitta and rakta and got sthana samshraya on face. In Ayurveda, nasya is the main line of treatment for Vyanga⁹⁻¹¹. Melasma is a chronic hyperpigmented disease characterized by circumscribed patches on cheeks, nose and forehead¹²⁻¹⁴. On the basis of signs and symptoms, melasma can be co-related with Vyanga. In Ayurveda, skin disorders are included under the heading of kustha and Kshudraroga¹⁵⁻¹⁷. Causative factors where

pittakaraka ahara, vihara and manasika karanas (Psychological factors) like krodha, shoka, bhaya and ayasa¹⁸. The psychological factors are very important role in the manifestation of Vyanga¹⁹. These nidanas vitiates Vata and Pitta dosha and it affects jatharagni. On the basis of Ashraya – Ashreeyi bhavas, vitiation of pitta dosha leads to vitiation of rakta dhatus²⁰. Thus these vitiated doshas travelled through dhamanis and got sthana samshraya in mukha, causes vitiation of bhrajaka pitta giving rise to discolouration of skin. Nasa is the pathway to shira²¹. Yashtyadi taila pratimarsa nasya administered through nasal route reaches Shrungataka that spreads in Murdha and helped to remove vitiated Doshas²². It acts on Endo cranial system and regulates its function like

inhibiting excessive secretion of Melanocytes thus helps to reduce Melasma.¹⁴ It gets absorbed by nasal mucosal membrane and enters in blood circulation thus it acts on Rasa, Rakta Dhatu and helped to mitigate the Doshas¹⁴. Direct pooling into venous sinuses of brain via inferior ophthalmic veins, makes direct absorption into the

cerebrospinal fluid. Many nerve endings in the peripheral surface of mucous membrane, olfactory, trigeminal²³ etc. would get stimulated by nasya dravya and impulses are transmitted to the central nervous system. This result in better circulation and nourishment of the organs and thus the disease subside.

Table 7: Contents of Yastyadi taila

Sanskrit name	Botanical name
Kinjalka	Nelumbo nucifera
Nilotpala	Nymphaea nouchali
Yastimadhu	Glycrrhaea glabra
Sheetala	Santalum album
Laksha	Laccifera laccal
Kaliyaka	Berberis aristata
Patranga	Caesalpinia sappan
Rakta	Red ochre
Padhmaka	Prunus cerasodies
Kinjalka	Ficus bengalensis
Nilotpala	Ruba cardifolia

The ingredients of Yashtyadi taila (Table 7) have Varnya property, 'Rakta prasadana' Tridosha shamaka, Sheeta veerya and Madhura Vipaka. These drugs produces cooling and nourishing effect. So, Yashtyadi Taila was given in the form of Pratimarsha Nasya. The treatment showed significant result in reducing hyperpigmentation and associated symptoms like itching and dryness on the affected part of the face. So, Yastyadi taila is found to be skin caring, protecting, preventing and enhancing beauty therapy

5. CONCLUSION

Melasma is a common skin condition and can be co-related to Vyanga. The disease Vyanga(melasma) is considered under "Kshudra Roga" Psychological factors like krodha, shoka, ayasa and Vata, Pitta, and Raktadushitkara ahara, vihara plays a role in the disease manifestation. In Ayurveda, the line of treatment of Vyanga is Nasya, Virechana, Raktamokshana and

8. REFERENCE

- Pichardo R, Vallejos Q, Feldman SR, Schulz MR, Verma A, et al. (2009) The prevalence of melasma and its association with quality of life in adult male Latino migrant workers. *Int J Dermatol* 48(1): 22-26.
- Werlinger KD, Guevara IL, González CM, Rincón ET, Caetano R, et al. (2007) Prevalence of selfdiagnosed melasma among premenopausal Latino women in Dallas and Fort Worth, Tex. *Arch Dermatol* 143(3): 424-425.
- Available from: <https://www.ncbi.nlm.nih.gov/books/NBK459271> [cited 27-4-2022].
- Shastri Kaviraj Ambikadatta, editor. Chaukhamba Sanskrit Sansthan, Varanasi. 14th ed; 2003. Sushruta. Sushruta Samhita, Nidana Sthana, Kshudraroga Nidana Adhyaya, 13/45-46; p. 288.
- Agnivesha Charaka, Dridhabala Acharya VJ, editors. Charaka Samhita, sutra Sthana, Trishothiya Adhyaya. reprint ed. Vols. 18/25. Varanasi: Chaukhamba Prakashan; 2009. p. 107.
- Satoskar RS, Bhandarkar SB, Ainapure SS. Prakashan. 16th ed. Mumbai: Popular Press; 1999. Pharmacology and Pharmaco Therapeutics. p. 843-4. Sec XIII.
- Trikamji Acharya Yadavaji. Sushruta Samhita with Nibandha Sangraha commentary by Dalhana. 8th ed. Varanasi: Choukhamba Sanskrit [reprint]; 2005, Pg no-318.
- Available from: <https://www.ncbi.nlm.nih.gov/books/NBK459271> [cited 27-4-2022].
- Wadkar VA, Atri VV. Role of Panchakarma in Ayurveda cosmetology: A literary review. *J Ayurveda Integr Med Sci*. 2020 Oct 31;5(05):286-4.
- Nille GC, Chaudhary AK, Rajmane SJ. The probability of advance fortune of cosmetology on doctrines of Ayurveda—the ancient science of life with beauty.
- Hardia A, Pol H, Pol S. A study to evaluate the efficacy of Jalauka Avacharana in Vyanga vis-a-vis Melasma. *J Ayurveda Integr Med Sci*. 2017 Apr 30;2(2):37-40. doi: 10.21760/jaims.v2i2.7699.

12. Wadkar VA, Atri VV. Role of Panchakarma in Ayurveda cosmetology: A literary review. *J Ayurveda Integr Med Sci.* 2020 Oct 31;5(05):286-4.
13. Nille GC, Chaudhary AK, Rajmane SJ. The probability of advance fortune of cosmetology on doctrines of Ayurveda—the ancient science of life with beauty.
14. 3 Hardia A, Pol H, Pol S. A study to evaluate the efficacy of Jalauka Avacharana in Vyanga vis-a-vis Melasma. *J Ayurveda Integr Med Sci.* 2017 Apr 30;2(02):37-40.
15. Nath R, Mandal SK, Mahajon B. Rational diagnostic advance of Kushta (integumentary diseases) by a preliminary arbitrary grading system based on Ayurveda fundamental principles. *J Sci Innov Res.* 2019;8(2):37-45.
16. Rajashree Debbarma, Raghunath.G.V, Binu.M.B. A clinical evaluation of jatiphala churna lepa in vyanga wrs to melasma. *Int J Ayu Pharm Res.* 2020:17-26. doi: 10.47070/ijapr.v8iSupply2.1691.
17. Pandey Yogesh Kumar, Jareda Abhilasha, Sabharwal Pooja, Gaur MB. Rational approach to diagnosis and management of.
18. Sharma RK. Charaka, Charaka samhita, siddisthana 2nd chapter, Bhagawan das chowkambha Sanskrit series, 22nd shloka. Vols. 6/202; 2011.
19. Murthy KRS. Vagbhata, Astangasanghra, sutra sathana [29th Chapter]. chowkamba orientalia 2nd shloka. Vols. 1/511; 2012.
20. Sharma Shivaprasad, ed. Astanga sangraha, uttaratantra. 19th ed. 2000, Varanasi, chowkambha sanskrot series;36/29:815.
21. Pandit Shri Laxman: Kshudraroga Rogadhikara. Prof. P.V. Tewari and Dr. Asha Kumari. Yogachandrika. Varanasi: Chaukhamba Visvabharati Prakashan, 1998. Chapter 34. Sholka. Pg no- 42. Vols. 10-12.
22. Sharma Shivaprasad, ed. Astanga sangraha, uttaratantra. 19th ed. 2000, Varanasi, chowkambha sanskrot series;36/29:815.
23. Pandit Shri Laxman: Kshudraroga Rogadhikara. Prof. P.V. Tewari and Dr. Asha Kumari. Yogachandrika. Varanasi: Chaukhamba Visvabharati Prakashan, 1998. Chapter 34. Sholka. Pg no- 42. Vols. 10-12.