Review On an Observational Study on The Etiopathoogenesis of Shwitra Vis -A -Vis Vitiligo

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***Abstract*—Ayurveda, the science of life, provides comprehensive principles for maintaining health. Skin diseases are described under Kushta in Ayurvedic literature, among which Shwitra is a variety characterized by white patches on the skin. It occurs due to vitiation of Tridoshas mainly Pitta and Kapha and Chaturdhatus (Rasa, Rakta, Mamsa, Meda). The Tamra (fourth) layer of Twak is considered the prime site of pathology. The description of Shwitra closely resembles Vitiligo, a depigmentary disorder marked by progressive loss of melanocytes. Understanding the Nidana Panchaka aids early diagnosis and management. Hence, this study evaluates the etiopathogenesis of Shwitra in relation to Vitiligo. Shwitra was observed predominantly in the 20–60-year age group, affecting both sexes. Major Aharaja Nidana included consumption of Amla, Katu, Kashaya, Madhura, and Tikta rasa foods with Ushna, Guru, Snigdha guna, as well as combinations like Dadhi and Matsya, Kshira with heated curd, and Masha preparations. Diwaswapna and Atapa Sevana were the common Viharaja Nidanas. All subjects showed Stage-1 or Stage-2 Twak Shwetata,Grade -1 VASI score confirming Vitiligo.Pittakara and Kaphakara Nidanas significantly contribute to Shwitra, which correlates clinically and pathogenetically with Vitiligo.**

***Index Terms*—Chatur dhatu's, Aharaja nidana, Diwa Swapna, Atapa sevana, Vitiligo**

I. INTRODUCTION

Ayurveda, the science of life, emphasizes not only the physical but also the mental and spiritual well-being of an individual. Beyond curing diseases, it guides in maintaining health and preventing illness. The skin, being the seat of Sparshanendriya, reflects both emotional and physiological states. In Ayurveda, Twak performs vital functions,it is the Mula of Mamsavaha Srotas, eliminates Mala as Sweda, and serves as the site of Bhrajaka Pitta, which governs the Chaya and Prabha of the skin. Melanin[1], produced by melanocytes in the epidermis, determines skin color. All skin disorders in Ayurveda are grouped under Kushta Roga [2]. Shwitra, also known as Shweta Kushta, is described as a condition characterized by white patches on the skin. Acharya Kashyapa [3] defines it as "Shweta Bhava Michanti Shwitram." Acharya Charaka attributes Kushta to factors such as Viruddha Ahara, Mithya Ahara Sevana, Ajeerna Bhojana, and Sheetoshna Vyatyasa [4]. These lead to vitiation of Pitta and Kapha along with Vata, which, after invading Twak, Rakta, Mamsa, and Lasika [5], cause Shwitra.Twak consists of seven layers, with the fourth layer (Tamra) being the primary site of Shwitra [6]. Vitiated Bhrajaka Pitta affects the Tamra layer, while Vata increases desquamation.In modern science, Vitiligo is a pigmentary disorder characterized by selective loss of melanocytes, producing chalky white macules. It is often symmetrical and associated with autoimmune disorders such as hypothyroidism and Addison's disease[7]. The global prevalence ranges from 0.5–2%, and 0.25–4% in India[8]. Thus, Shwitra in Ayurveda can be correlated with Vitiligo based on etiology and clinical presentation.

II. OBJECTIVES OF STUDY

- To study Nidana Panchaka of Shwitra.
- To study Etiopathogenesis of Vitiligo.

III. MATERILS AND METHODS

The Present Study Entitled "AN OBSERVATIONAL STUDY ON AETIOPATHOGENESIS OF SHWITRA VIS-A-VIS VITILIGO" which is done with following materials:
Source of Data:The literary sources of present study will be obtained from Ayurvedic Samhita's, Modern textbooks of Medicine, Departmental Library of post graduate studies in Roga Nidana and Vikruti vignyana of Ayurveda Mahavidyalaya Hubballi and Internet

Publications available in authentic websites.Subjects attending OPD and IPD of HASS Ayurveda Mahavidyalaya Hospital, Hubballi presenting with cardinal symptoms of Shwitra Roga and Vitiligo were taken for the research study.

Methods of Collection of Data:

- Subjects presenting with symptoms of Shwitra Roga attending the OPD and IPD of the Ayurveda Mahavidyalaya Hospital, Hubballi will be selected as per the criteria of diagnosis.
- Subjects were registered and recorded as per the specially designed clinical proforma and questionaries.
- The Literature were collected from The Post Graduate Library, Ayurveda Mahavidyalaya Hubballi, Authentic Research Journals, Websites, and Publications Etc.

Inclusion Criteria:

- Subjects with classical Lakshanas of Shwitra.
- Subjects of both genders irrespective of Occupation, Religion, Socio- economic status.
- Subjects belonging to age group between 20 to 60 years of age.

Exclusion Criteria:

- Other skin manifestation like Dadru Kushta, Kitibha Kushta.
- Post burn, Traumatic and post traumatic skin changes.
- Subjects suffering from Albenism will be excluded.

Study Design:
This is an observational study.

Parameters of Study:
Subjective parameter:Twak Shwetata
Grade-0-Normal skin.
Grade-1-Incomplete hypopigmentation.
Grade-2-Complete depigmentation with black hairs.
Grade-3- Complete depigmentation with black and white hairs.
Grade-4- Complete depigmentation with significant white hairs.
Objective parmeter:VASI SCORE–Vitiligo Area Scoring Index
VASI SCORE = ∑ All Body Surface Area [Hand Units] × [Percentage of Depigmentation]

VASI Score grading

Grade	VASI Score
Grade-1	0-10
Grade-2	11-25
Grade-3	26-50
Grade-4	Above 50

Assessment criteria:Subject fulfilling inclusion criteria were taken for the study.
Investigations:Relevant investigations if necessary.
Sample Size: Minimum of 40 subjects diagnosed as Shwitra Roga were selected incidentally and randomly.
Follow Up: Study doesn't require follow up since this is an observational study.
Duration of the study: Since this is an observational study, subjects were kept under observation till complete data and information was collected.

IV. OBSERVATIONS

In this present study, 40 subjects suffering from Shwitra were registered fulfilling the diagnostic criteria and their observation are showed below.

Table No. 01: Sex Wise Distribution

Sex	Count	Percentage
Female	18	45
Male	22	55

Table No. 2: Religion Wise Distribution

Religion	Count	Percentage
Hindu	33	82.5
Muslim	6	15
Christian	1	2.5

Table No.02: Kulavrittanta Wise Distribution

Kulavrittanta	Count	Percentage
Swatantra	27	67.5
Matruja	02	05
Pitruja	06	15
Swakula	05	12.5

Table No. 03: Occupation Wise Distribution

Occupation	Count	Percentage
Business	6	15
Farmer	11	27.5
House Wife	14	35
Painter	1	2.5
Student	5	12.5
Teacher	3	7.5

Table No. 04: Habitat Wise Distribution

Habitat	Count	Percentage
Rural	15	37.5
Urban	25	62.5

Table No. 05: Ahara Wise Distribution

Ahara	Count	Percentage
Mixed	31	77.5
Veg	9	22.5

Table No.07: Krodha Wise Distribution

Krodha	Count	Percentage
Absent	22	55
Present	18	45

Table No.08: Bhaya Wise Distribution

Bhaya	Count	Percentage
Absent	32	80
Present	8	20

Table No.09: Table Showing Shoka

Shoka	Count	Percentage
Absent	31	77.5
Present	9	22.5

Table No.10: Table Showing Chinta

Chinta	Count	Percentage
Absent	14	35
Present	26	65

Table No.11: Guna Wise Distribution

Guna	Count	Percentage
G,L,R,Sn,U	19	47.5%
G, L, R, U	14	35
G,Sn,U	3	7.5%
L,R,Sn,U	4	10%

Table No.12: Agni Wise Distribution

Agni	Count	Percentage
Manda	20	50
Vishama	12	30
Teekshna	07	17.5
Samagni	01	2.5

Table No.13: Kosta Wise Distribution

Koshta	Count	Percentage
Krura	13	32.5
Madhyama	14	35
Mridu	13	32.5

Table No.14: Mala Wise Distribution

Mala	Count	Percentage
Regular	16	40
Irregular	12	30
Constipated	12	30

Table No.15: Nidra Wise Distribution

Nidra	Count	Percentage
Disturbed	21	52.5
Sound	19	47.5

Table No.16: Habits Wise Distribution

Habits	Count	Percentage
Absent	5	12.5
Alcohol, Tobacco, Tea	5	12.5
Betel Nut, Tobacco, Tea	8	20
Smoking, Tea	3	7.5
Tea	19	47.5

Table No.17: Prakruti Wise Distribution

Prakruti	Count	Percentage
Kaphapitta	1	2.5%
Pittakapha	21	52.5%
Vatakapha	10	25%
Vatapitta	8	20%

Table No.18: Table Showing Vaya

Vaya	Count	Percentage
Bala	00	00
Madhyama	40	100
Vriddha	00	00

Table No.19: Types Of Shwitra

Type	Count	Percentage
Vataja	00	00
Pittaja	00	00
Kaphaja	40	100

Table No.20: Twak Shwetata

Twak Shwetata	Count	Percentage
Stage-1	7	17.5
Stage-2	26	65
Stage-3	7	17.5
Stage -4	00	00

Table No.21: Vasi Score Wise Distribution

Vasi Score	Count	Percentage
Grade-1	40	100
Grade-2	00	00
Grade-3	00	00
Grade -4	00	00

V. DISCUSSION:

The reason behind the greater number of male patients may be due to a greater number of male patients participated and as per observation on occupation and Habits, maximum of Male patients was exposed to etiological factors.There is no significant relation between manifestation of Shwitra and Religion. This is due to predominant Hindu population in this area.Kulavrittanta suggests the fact that herido familial and Beeja Doshaja may be present in Vitiligo as explained in our classics. It is difficult to assess impact of family history based on minimal sample size.

The incidence of Shwitra is more in Pittakaphaja Prakruti person, when Pitta Kapha Prakruti person indulges in Mitya Ahara Vihara, the predominant Pitta Dosha with its Ushna and Tikshna Gunas disturbs Rakta Dhatu and impairs normal pigmentation, while Kapha with its Guru and Snigdha Gunas leads to Ama formation and Srotorodha. Together, these create a strong pathological basis for Shwitra by causing Rakta, Mamsa, and Meda Dushti. The majority of cases in this group confirms the importance of Pitta and Kapha involvement in manifestation of Shwitra. Kapha Pitta Dosha Meda Rakta Dhatu were the most common Vikruti's, Kapha Vikruti leading to Agnimandya and Ama formation and Srotorodha, while Pitta vitiates Rakta Dhatu and impairs normal pigmentation. Meda Dushti does Srotoavarodha and Rakta Dushti directly leads to discoloration of the skin. This combination represents the classical samprapti of Shwitra.In Housewives reduced nutritional intake and Diwaswapna vihara being cause for Shwitra. In farmers excessive exposure to sun heat, in Painters, exposures to the chemicals, Stress may be the cause in business man, teacher and student to cause Shwitra.

This significant predominance of mixed diet among individuals with Shwitra Vyadhi may indicate a possible correlation between dietary habits and the manifestation or progression of the disease. Such dietary incompatibilities disturb the balance of the Dosha's, particularly Pitta and Kapha, and lead to the accumulation of Ama, resulting from Mandagni. In the context of Shwitra, consuming foods with opposing qualities such as fish with milk, sour fruits with milk, or heated honey can disturb Bhrajaka Pitta, the sub-type of Pitta responsible for healthy skin pigmentation. The resulting imbalance affects the Rasa and Rakta Dhatus, leading to their Dushti. Over time, this pathological process disrupts melanin production in localized areas, causing the depigmented patches that are characteristic of Shwitra.Diwaswapna aggravates Kapha and lead to Ama formation due to Mandagni. This Ama, in turn, obstructs the Srotas and vitiates Meda and Rakta Dhatu's, which are important in the pathogenesis of Shwitra. Excessive Kapha dominance also suppresses Agni and facilitates vitiation of Bhrajaka Pitta, ultimately disturbing the normal pigmentation process.Manasika nidana's like Krodha, Bhaya, Shoka, and Chinta aggravates Vata-Pitta, causing Agni Dushti, Rakta Dushti, and disturbs the function of Bhrajaka Pitta. These lead to impaired pigmentation and cause hypopigmented patches, while Irshya was minimal, indicating lesser psychological contribution to Shwitra manifestation.This dominant doshic involvement suggests a predominant role of Kapha dosha in the manifestation of the disease. Kaphaja Shwitra is characterized by Shweta mandala, Kandu, Snigdha and slow-spreading lesions. Several factors could have contributed to this finding, such as regional climatic conditions favoring Kapha aggravation, dietary habits rich in Kapha-provoking foods, sedentary lifestyle, and the chronic nature of the disease, which often leads to Kapha dominance over time.

Stage–2 Twak Shwetata indicates that in the majority of patients, the disease has progressed just beyond the initial stage but has not yet reached the most advanced level. This suggests a moderate degree of Dosha involvement, where Rakta, Mamsa, and Meda Dhatus are vitiated to produce visible depigmented lesions but the process of complete Dhatu Kshaya or irreversible depigmentation has not yet occurred. It highlights that most patients fall into the intermediate stage of the disease, where early management and proper Chikitsa could still yield better outcomes. Grade -1 VASI corresponds to an initial stage of Rakta, Mamsa, Meda Dhatu Dushti with localized disturbance of Bhrajaka Pitta, leading to Twak Vaivarnyata. The fact that all subjects fell under Grade-1 indicates that the disease was in its less progressive state, where Dosha and Dhatu vitiation are not advanced at irriversible stage.

VI. CONCLUSION

The present study titled "An Observational Study on the Etiopathogenesis of Shwitra vis-a-vis Vitiligo" was conducted with detailed conceptual understanding

and clinical observation. Shwitra, classified under Kushta Roga, shares similar Nidanas (causative factors) such as Viruddhahara, excessive intake of curd and fish together, suppression of natural urges, overexposure to sunlight, and mental factors like Chinta, Shoka, and Krodha. The cardinal feature of Shwitra is Shweta Mandala (white patches) without discharge or itching, distinguishing it from other forms of Kushta. Most subjects in the study presented with Kaphaja Shwitra, often related to Kapha-Pittakara Ahara.The disease involves vitiation of Kapha, Pitta, and Vata Doshas and affects Rakta, Mamsa, and Meda Dhatus, confining the pathology mainly to the skin. The Tamra layer of Twak correlates with the basal cell layer (stratum germinativum) of modern dermatology, where melanocytes are located, aligning Ayurvedic concepts with the pathology of Vitiligo. Shwitra affects all age groups, with slightly higher occurrence in Madhyama Vaya individuals, and shows no gender bias. However, Madyama Koshta, Vishamagni, Mandagni, and Pitta-Kaphaja Prakruti individuals were more prone.Dietary factors like consumption of incompatible foods (Dadhi, Matsya, Kshira, Masha) and lifestyle factors such as Diwaswapna and Atapa Sevana were major contributors. Psychological stress also plays a significant role. Future studies with larger samples, multicentric surveys, and evaluation of Naimittika Rasayana in preventing disease progression are recommended.

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