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"CONCEPT OF KRISHNIKARANA MALAHARA IN THE TREATMENT OF VITILIGO"

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ABSTRACT

Skin is just an expanse of a surface to be painted, tattooed and otherwise assaulted for reasons of beauty & vanity. But, it is the largest organ of the body. It's the mirror that reflects external and internal pathology, and thus helps in diagnosis of disease. According to Modern dermatology, Shwitra can be correlated with Vitiligo which is an autoimmune disease, otherwise called as Leucoderma. Currently, there is no medication or treatment developed by medical science that can cure Vitiligo. In Ayurveda, management of Shwitra has been described in detail. Lots of research works have already been done at various institutes of Ayurveda. With the aim of providing better relief to the patient, present review study have been planned and aim of this proposed study is to assess the efficacy of Krisnikarana Malahara in the management of Shwitra (Vitiligo)."

KEYWORDS: Shwitra, Vitiligo, Autoimmune diseases, Ayurveda, Krishnikarana Malahara.

INTRODUCTION

The World Vitiligo Day, observed on June 25, is an initiative aimed to build global awareness about vitiligo. Vitiligo is a de-pigmenting disorder of the skin of spontaneous onset.[1] It is characterized by acquired, idiopathic, progressive, circumscribed hypomelanosis of the skin and hair, with total absence of melanocytes microscopically,[2] having a major impact on the quality of life of the patient suffering from it. Vitiligo is a multifactorial polygenic disorder[3] with a complex pathogenesis. It is related to both genetic and nongenetic

factors. Vitiligo is termed as 'Shwetakushta' in ancient texts. According to Gadanigraha: Vatika Shwitra - Ruksha, Aruna Varna; Pattika Shwitra -Tamra Varna, Daha, Romnashaka; Shleshmika Shwitra - Shveta Varna, Kandu Bahula Here involvement of rakta, mamsa and medadhatu takes place Dalhana has mentioned, when the vitiated doshas are limited to skin it is called Kilasa but when if other dhatus are involved than Shwitra. Acharya Kashyapa, in Kushtha-Rogadhikara, mentioned that any changes of skin color toward white, is called as Shwitra-

श्वेतभावात्श्वित्र ।। (का.सं.कुष्ठरोगाधिकार)

Vitiligo gets worse with time. Modern treatments have not been proven to work for a majority of people. They may provide a temporary solution which rapidly diminishes over time and produces side effects like sunburn, nausea, vomiting, itching and too much darkening of treated patches; while Ayurveda is a truly standard setting for an ailment that eludes any Western-style cure. Causing no harm to the patients; traditionally proven to help in balancing the immune system to prevent further progression in vitiligo.

MODERN REVIEW

Epidemiology: The estimated numbers of vitiligo prevalence in the World are based on data obtained from research publications and statistical analysis. Estimated prevalence is from 0.1 to 8%.[4] The findings also shows that from 0.5 to 2 percent of the population develops vitiligo, depending on the region.[5] Vitiligo affects all races and has a long history.[6,7] Both sexes are equally afflicted.[8] Vitiligo commonly begins in childhood or young adulthood with peak onset of 10–30 years, but it can develop at any age.[9,10,11] It is rarely seen in infancy or old age.[12] The incidence decreases with increasing age.[13]

Overview: Genes certainly play a role in all aspects of vitiligo pathogenesis, even response to environmental triggers, and so genetics really should not be separated out as a distinct phenomenon. Only a few vitiligo susceptibility genes have been identified with reasonable certainty. Currently, there is strong support only for HLA, PTPN22, NALP1 and perhaps CTLA4, all genes associated with autoimmune susceptibility.[14,15]

Signs & Symptoms: They vary considerably from person to person. It is more pronounced in people with dark or tanned skin. Some may only acquire a handful of white dots that develop

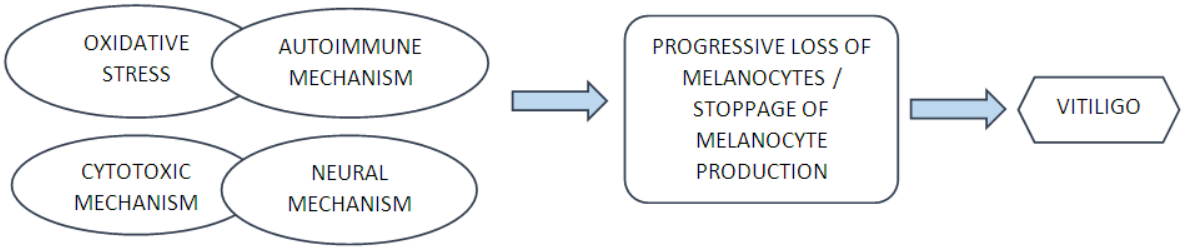
no further while others develop larger white patches that join together affecting larger areas of the skin.

Clinical Presentation: The patches are of various sizes and configurations. Involvement is symmetrical. The hairs in the vitiliginous areas usually become white also. Vitiligo lesions are specially marked in dark-skinned individuals.[16] The histological and some laboratory data support apoptosis rather than cell necrosis as the mechanism of melanocyte loss.[17,18] Patients with vitiligo present with one to several amelanotic macules that appear chalk- or milk-white in color,[19] surrounded by a normal or a hyperpigmented border.[20] Lesions enlarge centrifugally at an unpredictable rate and can appear on anybody site, including mucous membranes.[21] However, initial lesions occur most frequently on the hands, forearms, feet and face.[22]

Classification: Vitiligo is currently classified into two major subtypes: **segmental vitiligo and non-segmental vitiligo.**[23,24] Segmental vitiligo is restricted to one part of the body but not necessarily a dermatome. Non-segmental is more common, has a potential lifelong evolution, and is associated with Koebner phenomenon (a common entity observed in dermatological disorders; describes the appearance of new skin lesions on areas of cutaneous injury) and frequently with autoimmune diseases.[25] From another point of view, vitiligo is classified as segmental, acrofacial, generalized and universal, or by pattern of involvement as focal, mixed and mucosal types.[26] Generalized vitiligo is most common[27] & often symmetrical and frequently involves the hands, wrists, knees and neck, and the area around the body orifices. The hair of the scalp and beard may also de-pigment. There are also mixed and undetermined forms of vitiligo.

Pathophysiology: Vitiligo is a multifactorial polygenic disorder with a complex pathogenesis. It may be genetic & non-genetic. There are different theories viz. Oxidative stress, autoimmune, cytotoxic & neural mechanisms in pathogenesis of vitiligo.[28] It is generally agreed that there is an absence of functional melanocytes in vitiligo skin and that this loss of histochemically recognizable melanocytes is the result of destruction.[29] Destruction of melanocytes is slow & progressive.

Psychological stress increases levels of neuroendocrine hormones, affects the immune system and alters the level of neuropeptides, which may be the initial steps in the pathogenesis of vitiligo.[30,31]



Diagnostic Criteria: They are mainly clinical, based on the findings of acquired, well-demarcated white lesions on the skin, with no associated inflammation that tend to enlarge centrifugally.[32] Vitiligo lesions are accentuated on Wood's lamp examination.[33]

Treatment: Conventional therapies include glucocorticoids, topical calcineurin inhibitors, and for more widespread vitiligo depigmentation, NBUV-B, medicines plus ultraviolet light (PUVA).[34-39] The most recent effective and approved therapy for vitiligo is the 308-nm excimer laser with or without topical calcineurin antagonists.[40] Once the disease is stabilized, then surgical procedures can be performed. These include punch grafting and suction blister grafting for smaller areas where as for bigger areas methods like autologous non cultured melanocyte transfer is used.[41]

These allopathic vitiligo treatments only address Vitiligo on a superficial level and do precious little to correct the imbalances which are at the root cause of it. None of these conventional treatments cure vitiligo. Further, the skin grafting technique is suitable only for those with smaller areas of white skin. Steroid creams are often not successful in returning the skin colour in vitiligo. It causes stretch marks, skin thinning and these may not disappear when the cream is stopped. Prolonged use of strong steroid creams on the eyelids may increase the risk of eye disease, in particular- cataracts or glaucoma. Unlike cream, UV therapy is very safe, even if UVB therapy is effective, it works slowly. Most patients get very tired of coming in for treatment week after week, for what appears to be very gradual improvement. Causes the normal skin to tan, and therefore worsens the appearance of the vitiligo. There is also an increased risk of skin cancer with this form of treatment.

Ayurveda Review

Overview: The disease Shwitra was reported in ancient literature. Several references are found in the Vedas, regarded as one of the oldest written documents since the dawn of civilization. According to Ayurveda all the skin diseases have been covered under heading of

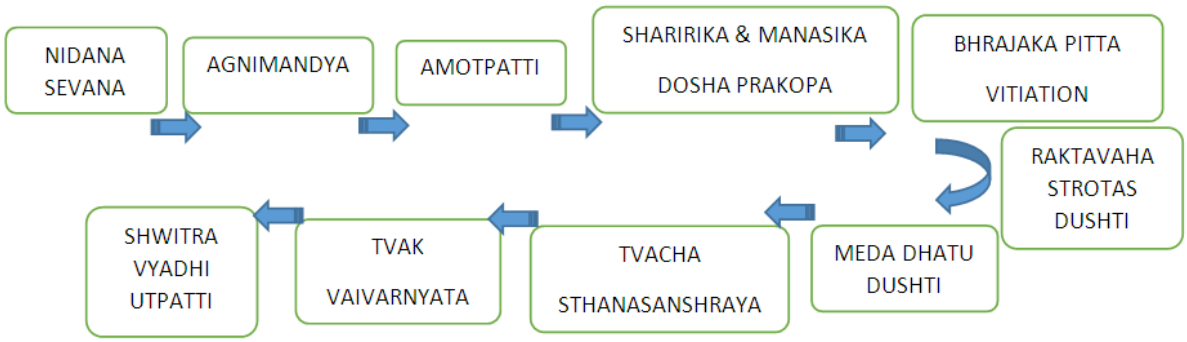
Kushtha, which are further divided into Maha-Kushtha and Kshudra-Kushtha. Kushtha has got a special importance in Ayurveda as it makes the skin ugly.

Synonyms: Acharya Charaka and his follower have tried to establish the theory that the disease is named as Kilasa, having three varieties i.e. Daruna, Charuna and Shwitra. Therefore, 'Shvitra' is the type of Kilasa disease.

Types

Types	Color of lesion	Dosha	Dhatu
Charuna	Krishna	Vata	Rakta
Daruna	Tamra	Pitta	Mamsa
Shvitra	Shveta	Kapha	Meda

Cause & Pathophysiology: Shwitra is due to the involvement of tridosha.[42] It is a Raktaja and Pittaja skin disease in which mainly Bhrajaka Pitta gets vitiated, which is otherwise responsible for normal skin color. Vitiated bhrajaka pitta is responsible for white colored skin patches, named as Shwitra Vyadhi.



Acharya Charaka[43] has quoted the causes of Shweta Kustha clearly that the pschycological factors are responsible for aggravating the disease state; as by (viharaja) indulging in the asatyata, kritaghnata, ninda-suranam, guru-gharshanam, paapakriya-purvakritam.

Reference from the Vedic literature is found in the Atharvaveda, where Shwitra appears for the first time in the commentary of Darila. In Rig-Veda (V.53.1) also the reference to Kilasa is found in different places as well as it is available in Vajaseneji Samhita, Kathaka Samhita; Taittiriya Bramhana and Tandya Mahabrahmana. Furthermore, it is described in Panini Vyakarana (5/12/129). References to this diseases are available in Agni Purana, Guruda Purana and Mahabharata also.[45]

Treatment: The treatment protocol is based on the rule of similarity and dissimilarity i.e, Samanya-Vishesha Siddhanta.[44] Things are always enhanced by consuming similar things and are always abated by using dissimilar things. A human body responds to similarity or differences in the same way. Shwitra treatment by Krishnikarana dravyas follows the same principle. A medicine used properly strengthens the doshas that have become weak (by its similarities) and at the same time it reduces the doshas that are increased to cause the imbalance (by its opposite nature). It's proper application is the key component in choosing the most effective plan of treatment that involves food, activities & medicines.

MATERIALS AND METHODS

For the present review detailed literary study has been performed. The details content and references has been analyzed from available literatures. Principal texts referred are various modern books, internet, Ayurveda Samhitas etc. Also relevant references are taken from other available research articles.

DISCUSSION

All the current modern treatment modalities are having their own limitations and side-effects. So it is the need of time to have some safe and reliable, side-effect free treatment modalities. In this context, Ayurveda proves to be effective to a large extent in treating vitiligo. For the treatment of vitiligo, we are using Krishnikarana Malahara which is described in Sushruta Samhita.

Probable Concept of Krishnikarana in Treating Vitiligo

The Krishnikarana; has three drugs viz. -

Drug	Part Used	Rasa	Guna	Virya	Vipaka
Vibhitaka	Fruit	Kashaya	Ruksha Laghu	Ushna	Madhura
Bhallataka	Fruit	Katu Tikta Kashaya	Laghu Snigdha Tikshna	Ushna	Madhura
Madanaphala	Fruit	Madhura Tikta Kashaya Katu	Laghu Ruksha	Ushna	Katu

".....बिभीतकभल्लातकपिण्डीतकस्नेहाःकृष्णीकरणे....।।" (सु.चि. - 31/5)

Vibhitaki: The plant is constituted of Glucoside, Tannins, Gallic acid, Ethyl Gallate, Chebulinic acid which serves as an antioxidant, antihypertensive[45] Vibhitaki is known to boost the immune system[46] of the body, cure various skin diseases,[47,48] Leucoderma[49] and greyness of hair, fruit's paste is recommended in inflammation & painful complications,

epithelialization, wound healing activity.[50]Vibhitaka due to kashaya-madhura guna it is pitta-shamaka & due to its ushnatva it is vata-kapha shamaka for which it is useful in krishnikarana of the skin.[51]

Bhallataka: Though it is toxic in nature, after several stages of purification it is used in many compound formulations of Indian systems of medicine to cure many diseases. Its nuts contain a variety of biologically active compounds such as biflavonoids, phenolic compounds, bhilawanols, minerals, vitamins and amino acids, which show various medicinal properties. The fruit and nut extract shows various activities like anti-inflammatory, antioxidant, CNS stimulant, skin diseases affecting pigmentation, hair growth promoter,[52] rasayanadravya,[53] shwitra,[54] kushthaghna,[55] penetrate deep into tissues and rejuvenate the body. There is not a single ailment of kaphaja vikara that can be cured by bhallataka.[56] According to Acharyas, it compromises of ushna-tikshna guna due to which it is kapha-vata shamaka & useful in krishnikarana of the skin.[57]

Madanaphala: It has therapeutic properties like immunostimulant activity,[58] anti-inflammatory, immunomodulatory, wound healing etc. It is highly reputed for properties against oxidative stress and inflammatory cytokines, aruksha (less rough), vijjal (picchila), ashukari (Fast acting) properties.[59] Due to these properties it is useful in the treatment of diseases like Kushtha[60,61,62] (skin diseases). It is kapha-vata shamaka due to its ushna guna. Also tvacha-grahi.[63]

Lepa- Probable Mode of Action

Shwitra's choice of treatment depends on factors like location, size and numbers of white patches. Alepa, Lipta, Lepa, Lepana- all these are the synonymous words used in the different context of classical texts. Here, the alepa variety will be used, as it exhibits the mixed characteristics of pralepa & pradeha. It usually applied against the hair follicular direction (pratiloma gati), this facilitates the quicker absorbtion of the drug potency through Romakupa (hair roots), Sweda vahini (sweat glands) and Siramukha (blood capillaries). According to the Sharangdhara, its main function is the varnya (to enhance the colour and complexion of the skin). When the medication is applied, the minute particles of the substance penetrate into the skin due to the gravitational pull and the weight of the drug. The Upashoshana property of vyana & samana vayu would play a major role in the skin, the drugs would act upon the body, pertaining to the virya (active principles). The cow's urine (gomutra) will be used as a

base in the preparation of Malahara, which contains a large number of various elements; it produces hydration of skin and improves the activity of the lepa.

According to Acharyas cow's urine[64,65,66] is katu-rasa (pungent), tikshna- thereby penetrates deep, ushana-virya (hot in potency)- which helps to subside kapha & vata; madhura-rasa (sweet) thereby somewhat alleviates doshas.

The various elements of Krishnikarana lepa may act as chemical and physical stimulant to the cells of melanin, it increases the membrane permeability; including the stratum corneum, epidermis and dermis, and is select certain substances such as drugs after its local application, when the affected area of skin is exposed to sun light, the ultraviolet rays of sunlight also produces various chemicals which are also mitogenic to melanogenesis. Sushruta has explained 7 layers of skin i.e, Avabhasini, Lohita, Shweta, Tamra, Vedini, Rohini, Mamsadhara;[67] and said Kustha occurs in the tamra & vedini layers. Its Ayurveda treatment may surely be effective to that both layers.

CONCLUSION

Hence, this literary review study has been preferred, since no exploration has been done thus far in Krishnikarana for treating vitiligo which posture a strong challenge in the present day.

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