

A Literature Review of Nuna Kadugu Thylam in Treatment of Venpulli (Vitiligo)

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ABSTRACT

Venpulli corresponding to vitiligo in modern dermatology is a condition a chronic acquired depigmentary disorder marked by circumscribed hypopigmented macules resulting from melanocyte dysfunctions. This is condition poses significant therapeutic challenges due to it complex pathogenesis involving autoimmune mechanism oxidative stress genetic susceptibility and neurocutaneous factors. Siddha medicine classified kuttam 18 types vitiligo also comes under kuttam disorder. it is also called (Venkuttam/ Venpulli/Ven padai /Suvethakuttam) where imbalance of pitham and kapham leads to dearrangement of skin colour regulation nuna kadugu thailam a classical siddha medicated oil intended for external and internal application has been traditionally indicate for the management of Venpulli.

The study review aims to therapeutic relevance of Nunakadagu thailam a classical siddha medicine analyse of available literature suggest that the formulation process for pharmacological attributes conclude to repigmentation including stimulation of melanocyte activity enhancement of melanogenesis immuno modulatory action and the antioxidant potential oil based medium facilitate effective transdermal absorption ensure prolong the dermal contact and the enhance localise therapeutic action in conclusion existing literature indicate that nuna kadugu thylam is complementary intervention in the management of Venpulli.

Keywords: Vitiligo, Immunomodulatory, Nunakadagu, Depigmentation, Siddha system.

INTRODUCTION

Vitiligo is characterized by hypo pigmented (chalk white/ ivory /pale white) and shortly margined vitiligo may present any time in lifelong including from (neonate to childhood) the disease aggravate onset before 20 years of age.it is chronic non contagious auto immune disorder where the immune system destroys melanocyte (pigment -producing cells). The exact cause is unknown, but it is considered as an autoimmune disease, often linked with genetic factors, stress,or other Autoimmune condition like thyroid dysfunction.

Affecting (~0.5%-2%) of the population, it causes pigment loss on the skin, hair or mucous membranes, often symmetrically. It is not infectious and can be managed to improve skin tones and mental well-being.

Variations in genes that are expressed in the immune cells or in the melanocyte have both been associated with vitiligo.it is thought to be caused by the immune system affecting and destroying the melanocyte have both been associated with vitiligo.

The exact etiology of vitiligo is poorly understood and this often considered as multi factorial disease with a complex pathogenesis and compassing several postulations implicating autoimmune site toxic biochemical oxidant and the oxidant viral and the neural mechanism for destruction of melanocyte function in genetically predisposed. Be presence of autoimmune disease like thyroiditis, grave disease, addision's disease diabetes mellitus, alopecia areatae and pernicious anaemia in patients under their first-degree relatives favour in autoimmune etiology. A proportion of up to 30%patients with positive family history vary across region and ranges from (6%to18%)in general and was high as 40%in an Indian study.however in children , vitiligo show a

female predominant a higher proportion of segmental presentation than acrofacial and mucous vitiligo associated with other Autoimmune or endocrine disorder being uncommon. few studies reporting women being affected almost two times more than men is attributed to their health seeking behaviour for cosmetic concerns.

MATERIAL AND METHODS

A literature review - Herbal formulation Gunapadam mooligai vagupu part -2

- English : Indian mulberry,
- Telugu. :Maddi chettu
- Malyalam : kadappilava
- Kannadam : Tagate mara
- Sankirt : Achuka
- Hindi : Achhi.

Morinda tinctoria: Morinda pubescens :

1. Kingdom:plantae
2. Division: Angiosperms
3. Class: asterids
4. Order : genitanales
5. Family : rubiaceae
6. Genus : morinda
7. Species: tinctoria.

Fig. No: 1 – Morinda tinctoria



Morinda is a genus of flowering plants.

In the madder family rubiaceae. The generic name is derived from the Latin words morus' mulberry ' referring to the appearance of the fruit and indica means of India. It distributed in All tropical regions of the world morinda includes 80 species of trees shurbs vines .all morinda species bear aggregate are multiple fruits that can be fleshy like more end of citrifolia or dry most species of the genus originate in the area of borneo new gunia Northern Australia and new caledonia. And evergreen shrub or small tree growing to (5 to 10 m)with the leaves (15 to 25 cm)long. Oblong to learn so late the flowers or tubular, white scented, about 2 cm (long the fruit is green sink or 22.5 CM diameter)the plant is extensively cultivated in India in order to make the moringtone die sold under the trade name more and down is used for dying of cotton silk wool in shade of red chocolate or purple.

Vitiligo

It is an Acquired idiopathic de pigmentary condition which through worldwide in distribution is most common in India and other tropical countries it is a source of great social embarrassment to dark skin the people it affect all age group with no prediction to either sex many case the age of 5 at puberty and at menopause. in incident is marked on the increase.

Clinical features:

It is characteristic by completely De pigmented macules and patches of varying size and shape beside loss of colour there is no other structural changes early lesion may be pale white and ill define at the stage of Woodland help to confirm the diagnosis patches enlarged is slowly and may affect the whole body but this involvement is very complete any part of the body can be affected but the side pre-deletions or the face tose of feet and the hand based on the leg involvement of mucus membrane especially lips is not uncommon it can fix it containers environment by the years are may or may not become the pigmented vitiliziness area patience skin is susceptible to even minor trauma it heals with a depigmentation. At times lesions developed along the distribution of a peripheral nerve. it is interesting sometimes to see a bunch of hair turning grey under then followed by loss of pigment in that area of skin occasionally vitiligo develops around the pigment mole' Halo naevi.

Classification:

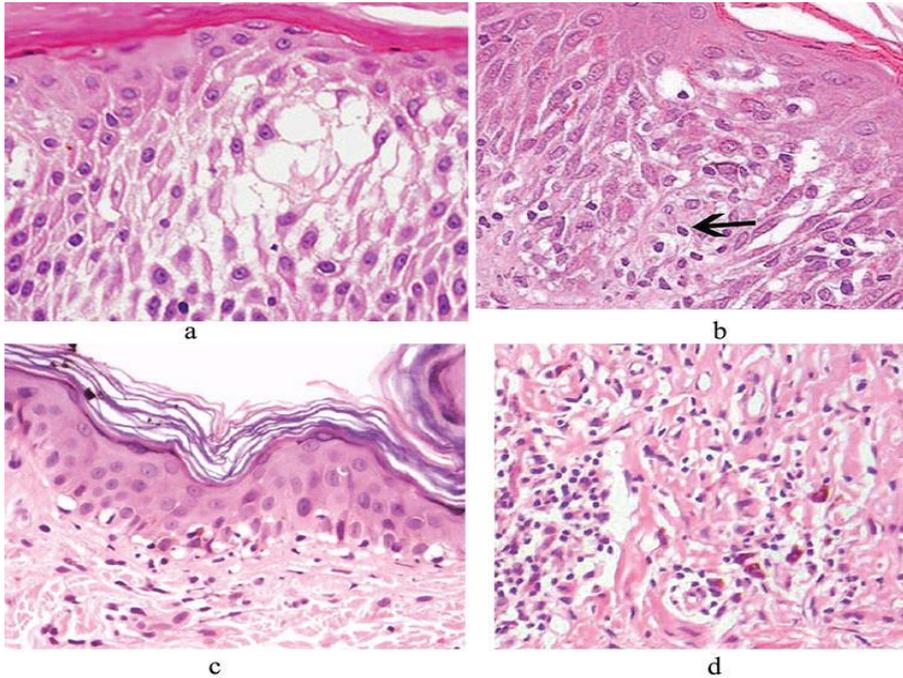
1. Progressive stage v1
2. Quiescent stage v2
3. Depigmenting v3
4. Active 1 new lesion developing. lesions
5. increasing size
6. Quiescent stage v2 no new lesions developing listen stationery in size. border hyper pigmented and well defined. lesions decreasing in size.
7. Improving v3 border define under sign of spontaneous repigmentation follicular and the peripheral.

Pathology

A defect in enzymes tryrosinae in held responsible for vitiligo according to some malleton in a substance secreted attend now ending inhibit tryrosinae does interfering in pigment formation (dopa)Dihydroxy phenylalanine a staining show that melenocytes or deficient in active case more on nuclear hugging at the junction of nation and the normal skin is a prominent feature.

Histopathology

Fig.No:2 – Histopathology of Vitiligo



Vitiligo histopathology is characterized by the complete absence of functional melanocytes in the basal layer of the epidermis within established, depigmented lesions. While mainly a clinical diagnosis, histopathology of active or unstable lesions often shows lymphocytic infiltration (CD4+/CD8+ T cells), dermal melanophages, and basal cell vacuolization, whereas stable lesions show a quiet epidermis.

Key features of Histopathology:

1. **Melanocyte Loss:** The hallmark finding is a total lack of melanocytes (DOPA-positive) in the basal layer.
2. **Active/Unstable Lesions:** Often reveal a lymphocytic infiltrate, frequently seen at the advancing edges, and epidermal spongiosis.
3. **Chronic/Stable Lesions:** Typically demonstrate a marked absence of melanin, but rarely show inflammatory cells.
4. **Staining & Visualization:** Fontana-Masson stain is used to detect melanin loss, while immunohistochemistry (e.g., MART-1, MelanA, S100) is used to confirm the absence of melanocytes.

Diagnosis:

It is usually appearance in doubtful and early cases.

Wood lamp is of great help in diagnosis usually in macular leprosy, anetoderma seborrhoeides, pityriasis versicolor and nevoid condition, vitiligo areas Milky white while others lack this milky white coloration.

Differential diagnosis:

Leukoderma: chemical, melanoma related, scleroderma related; acquired condition with localized loss of skin pigmentation associated with inflammatory skin conditions, burns, intralesional steroid injections, postdermabrasion

Oculocutaneous albinism: melanocytes present, but no melanin due to defect in tyrosinase enzyme or melanogenesis.

Preparation of Nuna kadugu thylam :

- 1) Nuna leaf 1g
- 2)Gingelly oil 1 L
3. Nuna kadugu : Internal medicine
4. Nuna thylam : External medicine
5. Reference Gunapadam mooligai vagupu part 2

Action of drugs:

- Morinda tinctoria chemical action:
- Flavonoids, phenols, Alkaloid, Tannin, Terpenoid, oleuropien.
- Gingelly oil chemical action
- Oleic acid
- Linolenic acid, palmitic acid
- Flavonoids action as antipotent, antioxidant anti-inflammatory agent in vitiligo reducing reactive oxygen species protecting melanocytes from oxidative damage and modulating immune response.
- Linolec acid act as primarily as a component of cell membrane and precursor to inflammatory mediators.

Vitiligo is most noticeable in summer then in normal skin. The skin white area having not protected by pigmented or easily by exposure to Sun. The different at this type of stage confirm Woodlamp diagnosis to confirm the patient skin insustainable to even minor drama it a heel with a depigment burning area of the skin it developed around pigmented moles Halonaveus, hemoglobin is low and sometimes (intestinal parasite) persons infection can be detected.

DISCUSSION

Venpulli, described in Siddha literature as a depigmentary disorder characterized by loss of normal skin colour, closely resembles vitiligo in modern medicine. Classical Siddha texts attribute Venpulli mainly to dearrangement of humours (especially Pitham and Kapham) and vitiation of skin tissues, leading to loss of normal pigmentation. Management in Siddha emphasizes correction of humoral imbalance, purification therapies, and use of internal and external medicines that stimulate skin pigmentation and restore normal skin function.

Nuna Kadugu Thylam, an external Siddha formulation, has been traditionally indicated for various skin disorders, including Venpulli. The main ingredient, Nuna (*Morinda tinctoria* / *Morinda citrifolia*), along with Kadugu oil, is described in Siddha literature to possess ushana veeryam (hot potency), (digestive and metabolic stimulating) properties, and Kapham–Pitham actions. These properties are considered beneficial in correcting the underlying humoral imbalance associated with Venpulli.

Siddha viewpoint, external application of Nuna Kadugu Thylam not only acts locally on the skin but also helps in normalizing the altered Pitham and Kapham components responsible for Venpulli. Clinical observations reported in Siddha practice indicate gradual improvement in skin colour, reduction in the size of depigmented

patches, and better cosmetic acceptance with regular use, especially when combined with internal medicines and dietary regulations.

CONCLUSION

The literature review highlights that Venpulli (vitiligo) is well described in Siddha texts as a disorder involving dearrangement of humoral factors, particularly affecting skin pigmentation and normal body balance. Traditional Siddha formulations have long emphasized external and internal therapies for restoring skin color and maintaining systemic balance. Among these, Nuna Kadugu Thylam is repeatedly mentioned in classical and contemporary Siddha literature for its therapeutic value in depigmentary skin disorders.

The reviewed sources suggest that Nuna Kadugu Thylam possesses properties such as Kaarppu (pungent), Veppam (hot potency), and actions that support stimulation of skin pigmentation, improvement of local circulation, and correction of underlying humoral imbalance. Experimental and clinical observations reported in Siddha-based studies indicate encouraging outcomes, including gradual repigmentation, reduction in lesion spread, and improvement in skin texture when used appropriately under medical supervision.

Although the traditional evidence is promising, the available literature also indicates the need for more systematic clinical trials and standardized research methodologies to scientifically validate its safety, efficacy, and mechanism of action. Overall, Nuna Kadugu Thylam appears to be a valuable Siddha therapeutic option in the management of Venpulli, and further scientific exploration may help integrate this classical medicine into evidence-based dermatological practice.

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