



“FORMULATION AND EVALUATION OF HERBAL HARITAKI OINTMENT FOR VITILIGO TREATMENT

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ABSTRACT

Vitiligo, a common depigmenting skin complaint, has an estimated frequency of 0.5- 2% of the population worldwide. Vitiligo is frequently dismissed as an ornamental problem, although its effects can be psychologically ruinous, frequently with a considerable burden on diurnal life. About 80% of vitiligo threat is attributable to inheritable factors; and the rest (20%) is attributable to the terrain. Indeed though vitiligo is constantly dismissed as an esthetic issue, it can have serious internal consequences and significantly intrude with diurnal life. There are multitudinous pharmaceutical procedures available on the request that aim to stop the development of and induce epidermal repigmentation. Variable situations of skin saturation have been observed with similar curatives, either alone or in combination, and their ascendance was safe and effective. There are many vitiligo treatments available, and none of them can reliably beget repigmentation in every existent. Personalized operation is needed depending on terrain, physical appearance, and the presence of illness conditioning. The antedating study aims to give sapience into the implicit prospects of vitiligo drug while also recapitulating the current body of knowledge on the condition.

Keywords : Ointment, Pathogenesis, treatment options, vitiligo, autoimmunity, skin color, hypopigmentation, vitiligo, pigmentation, Haritaki, Neem, Almond oil, Spreadability.

INTRODUCTION

The etiology of vitiligo is unknown but there are different propositions to explain its pathogenesis. The lesions are characterized in well-terminated pearly white or depigmented macules and patches, round, round, or direct-shaped, and the borders are convex, range from the size of many millimeters to centimeters and enlarge centrifugally. There are different clinical variants of vitiligo

which are Trichrome, Borderline seditious, and Quadrichrome vitiligo. Koebner miracle (Development of vitiligo at specific trauma prone spots, like cut, burn, or bruise) is also a common clinical incarnation. Original lesions do most constantly on the hands, forearms, bases, and face, favoring a periocular or perioral distribution. The inflexibility of the complaint is scored by the body face area affected. The course of the

complaint is frequently changeable and varies in response to the treatment. Depigmentation frequently the cause of cerebral torture, social stigmatization, and low tone- regard. One of the myths associated with vitiligo is that vitiligo can not be treated. Actually, there's no vitiligo cure that can completely annihilate the condition, but there are ways to treat it by restoring the color of the skin. The stylish and most effective system to cure vitiligo is to maintain a healthy diet and to change a many life habits. Vitiligo is a habitual complaint of the skin where the skin stops producing colors that color the skin. As a result white patches on skin appear aimlessly at different locales. Herbals have great eventuality to cure different kinds of skin conditions. Further than 80 of people in India depend on traditional health care and use different factory grounded products for curing skin related problems. Along with other lozenge forms herbal medicines are also available in the form of ointment which is circumfluous lozenge medication used topically for several purposes. Eg. As protectants, antiseptics, emollients, astringents. Haritaki is correspond of dried fruit of Terminalia chebula Family-Combretaceae, which has rejuvenating parcels and helps to destroy free revolutionaries in the body.

SIGN AND SYMPTOMS

Vitiligo can start at any age, but generally appears before age 30. Depending on the type of vitiligo you have, it may affect:

Nearly all skin shells. With this type, called universal vitiligo, the abrasion affects nearly all skin shells.

Numerous corridor of the body. With this most common type, called generalized vitiligo, the discolored patches frequently progress also on corresponding body corridor(symmetrically).

Only one side or part of the body. This type, called segmental vitiligo, tends to do at a youngish age, progress for a time or two, also stop.

One or only a many areas of the body. This type is called localized(focal) vitiligo.

The face and hands. With this type, called acrofacial vitiligo, the affected skin is on the face and hands, and around body openings, similar as the eyes, nose and cognizance.

Causes

Vitiligo occurs when color- producing cells(melanocytes) die or stop producing melanin — the color that gives your skin, hair and eyes color. The involved patches of skin come lighter or white. It's unclear exactly what causes these color cells to fail or die. It may be related to:

A complaint of the vulnerable system(autoimmune condition)

Family history(heredity)

A detector event, similar as stress, severe sunburn or skin trauma, similar as contact with a chemical.

PATHOPHYSIOLOGY

Vitiligo is generally known as multifactorial polygenic complaint and has complex pathogenesis. It's generally associated with bothnon-genetic and inheritable factors. Still colorful propositions have been proposed about its pathogenesis but the exact etiology is still unknown. Propositions about the melanocyte destruction include cytotoxic mechanisms, autoimmune mechanisms, natural melanocyte blights, neural mechanisms, and oxidant- antioxidant mechanisms. In the neural thesis, a neurochemical middleman generally destroys the melanocytes and decreases the product of melanin. In oxidant andanti-oxidant medium intermediate or metabolic product of melanin conflation causes the destruction of the melanocyte. In the natural

disfigurement of melanocyte, there's an essential abnormality that impedes their growth and isolation. Another thesis is autoimmune or cytotoxic bone

Where there's an revision in humoral and cellular impunity that causes the destruction or dysfunction of melanocytes. This proposition supports the thesis that nonsegmental vitiligo is generally associated with autoimmune diseases than the segmental type of vitiligo.

MATERIALS AND METHOD

a)Collection of plant material : The fine powder of Haritaki and Neem, Almond oil,Babchi oil were purchased from the local market of Ahmednagar. The dried tulsi leaves and orange peel was ground into powder.

b) A
coholic extraction of herbs :

Preparation of haritaki extract :

The haritaki powder was extract was prepared by using Iso-propyl alchohol with 1:5 ratio. The prepared mixture then heated on water bath for at least 48 hours.

Preparation of Neem extract :

The Neem powder was extract was prepared by using Iso-propyl alchohol with 1:5 ratio. The prepared mixture then heated on water bath for at least 48 hours.

Preparation of Tulsi extract :

The Tulsi powder was extract was prepared by using Iso-propyl alchohol with 1:5 ratio. The prepared mixture then heated on water bath for at least 48 hours.

Preparation of Orange extract :

The haritaki powder was extract was prepared by using Iso-propyl alchohol with 1:5 ratio. The prepared mixture then heated on water bath for at least 48 hours.



fig no. 1 alcoholic extracts of herbal products

Procedure for formulation of herbal ointment :

a) Formulation of ointment base : F

| Sr. No. | Name of Ingredients | Quantity to be taken |
|---------|---------------------|----------------------|
| 1 | Hard paraffin | 3.5gm |
| 2 | Petroleum jelly | 3.5gm |
| 3 | Almond oil | 10ml |

table no.1 : formulation of ointment base

b) Formulation of Haritaki ointment : F

| Sr. No. | Name of Ingredients | Quantity to be taken |
|---------|---------------------------|----------------------|
| 1 | Prepared haritaki extract | 1.5ml |
| 2. | Prepared neem extract | 1ml |
| 3. | Prepared orange extract | 0.5ml |
| 4. | Prepared tulsi extract | 1ml |
| 5. | Babchi oil | 2ml |
| 6. | Ointment base | q.s.to 20gm |

table no. 2 : formulation of haritaki ointment

a) originally ointment base was prepared by importing directly grated hard paraffin which was placed in sinking dish on water bath. After melting of hard paraffin remaining ingredients were added and stirred gently to prop melting and mixing homogeneously followed by cooling of ointment base.

B) Herbal ointment was prepared by mixing directly counted Haritaki, Neem, Tulsi and orange excerpt to the ointment base by levigation system to prepare a smooth paste with 2 or 3 times its weight of base, gradationally incorporating further base until to form homogeneous ointment. Incipiently the Babchi oil painting was added dropwise and given the finalmixing. finally transferred in a suitable vessel.



Fig No.2 : Herbal Haritaki Ointment

Evaluation Parameters

- Colour and Odour

Physical parameters like colour and odour were examined by visual examination.

- Consistency

Smooth and no greediness is observed.

- PH

PH of prepared herbal ointment was measured by using digital PH meter. The solution of ointment was prepared by using 100ml of distilled water and set aside for 2hrs. PH was determined in triplicate for the solution and average value was calculated.

- Spreadability

The spreadability was determined by placing excess of sample in between two slides which was compressed to uniform thickness by placing a definite weight for definite time. The time required to separate the two slides was measured as spreadability. Lesser the time taken for separation of two slides results better spreadability. Spreadability was

Calculated by following formula

$$S=M \times L / T$$

Where,

S= Spreadability

M= Weight tide to the upper slide

L= Length of glass slide

T= Time taken to separate the slides

- Solubility

Soluble in boiling water, miscible with alcohol, ether, chloroform.

- Washability

Formulation was applied on the skin and then ease extend of washing with water was checked.

- Non irritancy Test

Herbal ointment prepared was applied to the skin of human being and observed for the effect.

RESULTS AND DISCUSSION

The present study was done to prepare and estimate the herbal ointment. For this the herbal excerpts were prepared by using simple maceration process to gain a good yield of excerpt and there was no any detriment to the chemical ingredients and their exertion. The levigation system was used to prepare ointment so that invariant mixing of the herbal excerpt The physicochemical parcels were studied which shows satisfactory results for spreadability, extrudability, washability, solubility, loss on drying and others.

Physicochemical evaluation of formulated ointment :

| Physicochemical parameters | Observations |
|----------------------------|---|
| Colour | Pale Green |
| Odour | Characteristic |
| Consistency | Smooth |
| pH | 5.8 |
| Spreadability | 8 |
| Solubility | Solubility Soluble in boiling water, miscible with alcohol, ether, chloroform |
| Washability | Good |
| Non irritancy | Non irritant |

Table No. 3 : Physicochemical evaluation of formulated ointment

CONCLUSION

From the ancient time Haritaki, Neem, Tulsi and orange are used for their various medicinal properties like antibacterial, antifungal, anti-inflammatory etc. Haritaki also known as Hira have properties to scavenge free radicals from the body and treats various skin problems. Neem which is having antioxidant property, Tulsi play the role in increasing the growth of melanin which is the essential component of the skin, Orange which is a great vitamin C source for skin and Babchi oil/Bakuchi oil which is photosensitizing agent are the main constituents of this ointment.

Thus this ointment could become a media to use these medicinal properties effectively and easily as a simple dosage form. It can be the choice of treatment for the vitiligo/leukoderma disorder.

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