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Ayurvedic Medicine in *Khalitya-Palitya* W.S.R. to Hair Fall, Premature Grey Hair and Alopecia: A Review

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Abstract

Hair loss and premature Grey hair is a prevalent dermatological course and it has an impact on both females and males. For centuries, hair has been the most important sign for the female as well as male. Healthy hair is an essential factor for physical well-being and peoples can show their charm, beauty and personal power with healthy hair that is why hair loss can cause psychological problems for man and women. Hair falls and Premature Grey Hair can significantly alter the physical appearance of a person and thus alter his/her body image. Among these *Aakal-Palitya* and *Khalitya* are chief common hair problems. Disturbance of *Tridosha* is the main reason of these disease and disorder. In modern medical science many factors contribute to hair diseases.

Number of drugs are used for treatment of Hair Fall and Premature Grey Hair-Hair oil, Hair applicable Serum, Multivitamins, Laser combs, Hair Dye, wigs, Hair pieces and last Hair transplant but they are Temporary and costly. Hence is need now days to find Ayurvedic remedy in case of *Khalitya-Palitya*.

Keywords: Alopecia, khalitya, palitya, tridosha, trichology

Introduction

Vali (Wrinkles), *Palitya*, *Khalitya*, Age spot, sagging skin, dull skin tone and thin skin are chief cardinal feature of aging. Beautiful, long and attractive hairs of the scalp enhancing factor to the personality [1].

Ayurveda is a Deep Ocean of knowledge in which not only systemic disease but also local minor disease is described in detail. It is a miracle science and art for an appropriate lifestyle, which helps us to achieve longevity. Improper *Aahara* (diet), not following the principle of *Dincharya* (Daily routine) and *Ritucharya*, living in polluted environment and stressful work culture fasten the process of ageing. The evidence confirms that the experience of hair loss is psychologically damaging, causing intense emotional suffering and often leading to personal, social and work-related problems. People with severe hair loss are more likely to experience psychological distress than those with mild hair loss.

Premature Grey Hair (PGH) is defined as Greying of hair before the age of 20 years in Caucasians and before 30 years in black. Definition of PGH with respect to the Asian population is lacking. The average age of the onset of Greying

in Caucasians is 34 +/-9.6 years and in Blacks, it is 43.9 +/-10.3 years. A large population-based study reported that 6% to 23% of people have 50% Grey hair by 50 years of age [12].

A person environmental (*vihara*) *Nidana*-Like *Ratri-Jagran*, *Atapa-Sevana* *Dhuma-Sevana*, *Dushita-Vayu-Sevana*, *Siroabyangayoga*, *Dushita-Jala-Snana*, *Ati-Vyayama* and *Upavasa* are important. Aboveall causes accounts for improper nourishment of scalp and hair follicles leading to hair fall and premature Grey hair [4].

Hair follicle growth occurs in cycles each cycle consists of a long growing phase (anagen), a short transitional phase (catagen) and a short resting phase (telogen). At the end of the resting phase, the hair falls out (exogen) and a new hair starts growing in the follicle, beginning the cycle again,

Hair loss, whether it is hair loss in men or hair loss in women, is a common biological problem all over the world, not just in India. The importance of hair in enhancing the overall personality of a human being cannot be overestimated.

Hair is the first thing that people notice about person. A great hair style can give you the personality boost you require in doing well in both personal and professional fronts. Greying of hair, also called canities or achromotrichia, is part of the

natural aging process. It has been reported that worldwide 6-23% of people have 50% Grey hair by 50 years of age. Greying typically begins in the mid-30s for Caucasians, the late-30s for Asians, and the mid-40s for Africans. Premature hair Greying is considered when the onset of Grey hair begins before the age of 20 years in Caucasians, before the age of 25 years in Asians, and before the age of 30 years in Africans [13].

Need of Study

Hair fall is one of the minor diseases which is affecting approximately 1.7% of the world population and challenging task for physicians. The likelihood that men suffer hair loss significantly increases with age. By the age of 35, approximately 40 percent of men are suffering from visible hair loss, while by the age of 60, this percentage jumps to 65. That means that almost half of men, by their late-forties or early-fifties, are suffering from noticeable hair loss.

Surprisingly, the numbers for women are even higher. A different survey suggests that by age 40, approximately 40 percent of women suffer from hair loss. By age 60, approximately 80 percent of women suffer some degree of noticeable hair loss, according to the survey by the International Society of Hair Restoration Surgery. Thus the economic and effective solution can be in Ayurveda.

Discussion

Disease Review

Literature collection of data on *Khalitya-Palitya* compare with the *doshik* involvement according to Ayurveda from all the available Samhita and in modern literature. It is caused by a variety of genetic, environmental and systemic factors; hair fall can affect everyone, regardless of their country of origin. The symptoms of *Khalitya-Palitya* described in modern text show resemblance with *Vataj* associated with *Pittaj* which responsible for hair fall according to *Sushruta Samhita* and *Vatadi DoshPrakupit* with *Pittaj* responsible for Hair Fall according to *Charak Samhita*.

Khalitya Rog Nidana: *Vatadi dosh* irritated with *Teja (Pitta)* burn the *Kesh Bhoomi* (Root of hair follicle). *Pitta dosh* mixed with *vata dosh* responsible for hair fall in hair follicles.

Palitya Rog Nidana: If *Pitta* irritable with *vatadi dosha*, burn little amount of *Kesh Bhoomi* then it gives rise to the disease. *Pitta i.e.* Heat of the body born of anger, worry and labor goes to the head and affects to the hair.

Due to *usna guna* of *pitta dosha* individual of *pitta prakriti* starts hair fall and greying of hair earlier than individuals of other *dosha prakriti*. [2] The hair has tendency to lose its natural colour with advancing age. Although, Aging is genetically predetermined but lifestyle, dietary habits, mental status, social & family life and many other environmental factors may influence the aging process and their unfavorable effects cause premature aging. In a survey study, 81.66% patients of premature aging of 30-40 years age had complaint of hair fall. Pre-mature aging could be a cause of increasing hair fall in peoples.

Table 1: Table showing the stages of hair loss.

Grade	Categories of Hair Loss
Grade 0	No significant hair loss
Grade 1	Minor hair loss not requiring wig
Grade 2	Moderate hair loss not requiring wig
Grade 3	Severe hair loss requiring wig
Grade 4	Total Alopecia

Alopecia occurs with wide variety of causes, some cases are best managed with reassurance and education, whereas others require medical evaluation and therapy. Most cases are of 03 categorical type of hair loss-

- 1. Non Cicatricial Alopecia:** In this chances of hair re-growth. It is of following types:
 - a) Adrogenetic Alopecia (Common Baldness):** Its either polygenic or autosomal dominant disorder starts with progressive thinning of hair results miniaturization of the hair follicle and shortened growth phase (anagen).
 - b) Telogen Effluviom (Shedding):** Its generally occur due to fever, childbirth, systemic disease, severely restricted diets withy protein vitamin minerals deficiency, surgical procedures followed by anesthesia, hormonal imbalance, menopausal changes and androgen excess.
 - c) Alopecia Areata:** It's a suspected autoimmune origine with unpredictable prognosis. Treatment opinions revolve around the extent of disease.
 - d) Traction Alopecia:** It's a physical damage to hair.
- 2. Cicatricial Alopecia:** It is caused by group of cutaneous disorders fungal, bacterial folliculitis, discoidal lupus erythematosus, and lichen planipilaris, scarring bulous disorder, neoplastic diseases.
- 3. Hair Shaft Abnormality:** Hair shaft abnormalities produce fragile and brittal hair. Patient may present with diffuse or patchy areas of short hair and a history with hair not growing beyond certain length [8].

Pathophysiology According to Modern

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Normally, about 40 hairs reach the end of their resting phase each day and fall out when more than 100 hairs fall out per day called clinical hair loss (telogen effluvium) may occur citation ended A disruption of the growing phase causes abnormal loss of anagen hairs (anger effluvium).

The hair follicle is made up of living cells that help in the growth of hair. An average human has about 100,000 to 150,000 hair strands on the scalp. The human hair grows at a rate of 0.5 inches in a month [9].

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Drug Review

Data is available for the use of amino acids, caffeine, capsaicin, curcumin, garlic gel, marine proteins, melatonin, onion juice, procyanidin, pumpkin seed oil, rosemary oil, saw palmetto, vitamin B₇ (biotin), vitamin D, vitamin E, and zinc to treat hair loss.

A variety of amino acids have been studied for the treatment of hair loss. Most notably, cystine and lysine have been evaluated in humans. Other amino acids, including methionine and arginine, are often included in hair nutraceuticals, but have not yet been evaluated in clinical studies [5].

Caffeine is an alkaloid methylxanthine and functions as a phosphodiesterase inhibitor, promoting cellular proliferation. *In vitro* studies report that caffeine counteracts the inhibitory effects of testosterone on hair growth, promotes hair shaft elongation, prolongs anagen duration, and stimulates hair matrix keratinocyte proliferation. Six months of daily caffeine shampoo/Caffeine lotion use (Alpecin caffeine shampoo C1, unknown concentration, 7 mL, left on scalp for 2 min) resulted in fewer hairs extracted on the hair-pull test and hairs shed during combing, with reduced speed of hair loss progression and overall hair loss intensity^[9-12]. Capsaicin, via activation of vanilloid receptor-1 and release of calcitonin gene-related peptide from sensory neurons, upregulates IGF-1 and inhibits TGF- β , which induces apoptosis of keratinocytes through the phosphatidylinositol 3-kinase/Akt pathway. Oral capsaicin 6 mg and isoflavone 75 mg daily for 5 months increased serum IGF-I in patients, hair growth occurred in 64.5%. A 5% topical hexane extract of *Curcuma aeruginosa* (CA), no significant improvement in total area hair count but Garlic (*Allium sativum*) belongs to the *Allium* genus along with onions seen in patients with "improved" outcomes. Biotin and vitamin D deficiency (< 100 ng/L) and suboptimal biotin levels (100-400 ng/L) were reported in 38% and 49% of healthy women complaining of hair loss, respectively. Efficacy of 1% pyrithione zinc shampoo used daily, 5% topical MXD solution used twice daily, or a combination of both, resulted in increased hair counts. Relaxation therapy also so significant effect in hair regrowth^[10].

Chandnadyam Tailam: Rakt-Chandan, Yastimadhu, Murva, Triphala (Haritki, Bahera, Amla), Neel-Kamal, Phool-Priyangu, Batki Varohi, Guduchi, Kamal-Tantu, Loha-Bhasma, Jata-Mansi, Krishna-Sariva and Sariva. Due to its application, the fallen hair of the head becomes thick and curly in *Khalitya* disease. Their roots are firm, aliphatic and become black like illusion. By taking this excellent oil, it destroys the disease of *Palitya*.^[6]

Amalki Churna helps to slow some signs of aging (like disease and wrinkles), improve heart health, support your digestive system, lower blood sugar, and reduce stress which helps to reduce the hair loss.

In *Khalitya-Palitya*, *Vali* (wrinkles on the scalp) and *Haritaloma* (brown hair) purificatory therapies followed by nasal medication, anointing the face and head and application of paste of drugs should be resorted to.

According to Sushruta-Inacase of *Indra-lupta* (baldness or Alopecia), the bald part or seat should be anointed and fomented, and then bleeding (by vene-section) should be resorted to, after which a plaster composed of *Manah-sila*, *Kasisa*, *Tuttha* and *Maricha*, or of *Kutannata* and *Deva-daru* pasted together, should be applied to it. As an alternative, it should be deeply scraped and constantly kept covered with a paste of *Gunja*-seeds. As an alternative, *Rasaiyana* medicines should be administered for its cure. Oil cooked with *Malati*, *Karavira*, *Chitraka* and *Naktamala* in highly efficacious incurring a case of Alopecia, if used as an unguent. Methodology should be in such a way according to the inclusion and exclusion criteria as per subjective, objective and diagnostic criteria with assessment data collection-procedure planned^[3].

Inclusion Criteria

- Patients between age group of 18 to 45 years.
- Both Genders.

- Have all types of Alopecia, diffuse hair loss or self-reported thinning or hair loss for more than 1 months prior to screening.
- Clinically conformed to have hair loss or thinning by the investigator by physical examination.
- Willing and able to participate/attend all study visits and gave informed consent.

Exclusion Criteria

- Patients have other disease such as Cancer, DM type II, Leprosy, Hypothyroid, Hyperthyroid, Cardiovascular, renal, Liver Disease, Genetic Bald lessness, Scalp psoriasis, Fungal and bacterial infection, lesions, follicular dermatitis, Chemical burn, unusual thinning patches, Trichokryptomania, Damaged to skin due to disease or injury, Neurological diseases, Known case of Auto-immune-Disease, HIV patients.
- Patient age less than 18 year and more than 45 years.
- Pregnant and Lactating women.
- Any condition or abnormality that in the opinion of the investigator, would compromise the safety of the subject.
- Any patient already has participated in another study within 30 days prior to screening.

Diagnostic Criteria

The diagnosis should be based on blood investigation i.e., CBC, RFT, LFT, TFT and pre and post scalp picture. Assessment of the condition should be based on detailed proforma adopting standard scoring methods of different parameters and should be analyzed statistically based on obtained data.

a) Subjective Parameters

- Questionnaire
- Daily hair count
- Standardized wash test
- 60-S hair count
- Pull test
- Global photography
- Hair pluck test/Trichogram.

b) Objective Parameters

- Reversible hypo-pigmentation of the hair and hair fall can be seen in nutritional deficiencies protein-energy malnutrition and diseases of chronic loss of protein.
- Copper and iron deficiency also can cause Greying of hair and hair fall.
- Vitamin B12 deficiency can cause PGH through unknown mechanism.
- About 55% of patients with pernicious anemia had Greying before 50 years.
- Decreased thyroid hormones cause premature Greying, alopecia, and changes in hair morphology. Thyroid hormones T3 and T4 act on hair follicles directly to increase melano-genesis.
- Pre and post scalp Picture after *Chikitsa*.

c) Procedure Planned/Method of Assessment and Data Collection

1. Prior to Selection (Screening)

- a. Informed Consent.
- b. Eligibility Evaluations
- c. Laboratory investigation.

2. During Selection (Baseline)

- a. Patient general information with history

- b. Assessment of Ayurvedic parameter ^[6]
- c. Norwood scale 1975 (7 stage)
- d. Hamilton scale 1951
- e. Ludwig scale 1977
- f. Premature Grey hair calculation and score ^[14].

3. During Treatment (15-Days, 30-Days, 45-Days, 60 days)

- a. Assessment of the Drug compliance
- b. Assessment of the clinical parameter
- c. Assessment of ADR.
- d. Drug Administration.

Greying Severity Score (GSS) as a novel, numeric, objective, and reproducible method for assessment of the severity of premature Grey hair. [Score 1 (assigned to under 10% Grey hair/cm²); Score 2 (10%-30% Grey hair/cm²); and Score 3 (more than 30% grey hair/cm²)]

Conclusion

In summary, hair loss comes in many different ways. Alopecia is usually treatable or self-limited, however, it may be permanent or cicatricial. Careful diagnosis of the type of hair loss will aid in selecting effective treatment. Reassurance is an important component of any treatment regimen.

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In the treatment of alopecia, there is an unmet need for therapies providing satisfying, long-term results. Patients often turn to Ayurvedic medicine in an attempt to find safe, natural, and efficacious therapies to restore hair. Multiple factors contribute to hair loss, including genetics, hormones, environmental exposure, medications, and nutrition.

There are a variety of Ayurvedic products on the market for alopecia; however, only some are backed by strong clinical evidence. Clinicians should be aware of these products, the marketing strategies used to promote said products, expected clinical outcomes, and side effect profiles to ensure accurate patient counseling. As with any medical history, it is always important to be thorough and include over-the-counter vitamins, minerals, and supplements. It is also important to elicit a complete allergy, contact dermatitis, leading to more hair loss. It is important for clinicians to stay up to date and practice evidence-based medicine when recommending with ayurveda.

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