

Shayb (Premature Graying Hair): Risk factors and its Herbal Management - A Systematic Review

Abstract

Graying of the hair before the age of 20 in Caucasians and before the age of 30 in African Americans is known as Premature Graying Hair (PGH) or Canities. It might have a negative impact on someone's Quality of Life. According to unani system it may be because of weakness of *Hazm*, poor nutrition of the hair and predominance of *Burudat* (coldness) in the body. The precise etiopathogenesis is yet unclear. When a patient has PGH, they should be evaluated for metabolic disorders and syndromes. According to Unani System the cause of premature greying of hair is excess production of *Balgham* (Phlegm) is increased greying of hair. Hair Colors and Colorants can be a transitory treatment choice however aggravation and unfavorably susceptible impacts to certain people are accounted for, it likewise expands the financial burdan. Treatment choices for PGH is calcium pantothenate, PABA, or both in blend and treating the going with obsessive circumstances. Natural Drugs, Nutritional supplements, Unani herbs for both oral and local hair dyes continue to be the primary method of treating cosmetic issues. This review paper explores the detail etiopathogenesis and management of PGH.

Keywords: premature hair graying, canities, unani herbal dyes, management

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Introduction

Premature Grayng Hair (PGH) or Canities is a common symptom of human ageing and affects people of all genders and races. It is considered premature if it appears before 20 - 30 years in white people, 30 years in black people, and 25 years in Asian people. Greying can have a significant negative impact on an individual's appearance and self-confidence, especially when considering the role of hair in daily life.¹⁻³ It can be associated with pernicious anemia, hyper or hypothyroidism, osteopenia and some rare syndromes like Progeria and Pangeria (Figure 1).¹



Figure 1 Graying of hair.

According to Unani System of Medicine, Hair is formed by *Bukharat e Dukhania*.⁴ It is *Madda-e-fuzooni* of the skin.⁵ Premature Graying is denoted by the term *SHAYB*.^{6,7} *Shayb* is defined as early greying of hair before the usual age of greying of hair.^{8,9}

Prevalence

PGH occurs before the age of 20 years in Caucasians and before 30 years in blacks.¹⁻³ In a recent study 6-23% of affected individuals were suffering from 50% PGH in the age of 50yrs, 10.6% prevalence found in age group of 5-15yrs,^{2,10} and in less than 40 years of age group prevalence reached about 33%. In India the overall prevalence is found to be 27.3% in North India and 28.2% in South India.^{10,11} PGH severely impact on social life of an individual having great psychological concern.²

Facts about premature hair graying

Men are more likely (51%) than women (45.9%) to experience hair greying. The most common location of localized greying is the front of the scalp (55.5%), so smoking and obesity are not a risk factor for premature hair greying. Early hair greying is more common in Caucasians (before the age of 20) and Africans (under the age of 30). Premature hair graying can be caused by low calcium, low vitamin D3 and low iron levels.¹⁰

Phases of hair growth

Graying of hair is a chronological aging process. Premature Greying of Hair is said only if greying occurs before the age of 20years in Whites, before 25 years in Asians and before 30 years in Negroes.^{2,12}

Hair growth has 3 phases.²

- 1) Anagen: 3-6 year
- 2) Catagen: 3 weeks
- 3) Telogen: 3 months

Etiology

The etiology of graying is incompletely understood it is mainly considered to be genetic with interplay of various environmental factors. Reversible hair hypopigmentation is observed in nutritional deficiency, protein-energy malnutrition and chronic protein loss. Lack of copper and iron can also cause gray hair Causes implicated includes stress and certain drugs including chloroquine, mephenesin, phenylthiourea, triparanol, epidermal growth factor receptor inhibitor or imatinib and interferon alpha, use of certain chemicals. Premature greying of hair also reported in patients with diabetes, IHD, TB, HIV infection, cystic fibrosis, Hodgekins lymphoma. Smoking is reported to be significantly correlated with hair graying.^{2,12}

Melanocytes in the hair bulb retracts their melanocytes and shut down melanogenesis towards the end of anagen and the activity of 3 main melanogenic enzymes: Tyrosinase, gp-75 and dopachrome

tautomerase decreases. It is likely that proopiomelanocortin (POMC) gene with the MC1 receptor play a role in regulating hair pigmentation. The activity of the local POMC/ MC1-R Axis plays a role in the physiological regulation of anagen associated hair pigmentation, with the hair follicle the hair pigmentation unit undergoes cyclical renewal. Reactive oxygen generated during melanin biosynthesis in anagen hair bulb have been implicated in melanocyte apoptosis and hair greying. Environmental pollution, stressful lifestyle, may compound the melanogenesis-induced endogenous oxidative stress. Systemic redox imbalance is present in Premature Graying of Hair patients, if oxidative stress increases hair greying also increases, hence anti-oxidant supplements are given in premature graying of hair.^{2,13}

According to Unani system, Actual time for Graying Hair is *Sin-e-Kahoolat*.⁵ It occurs due to weakness of *Hazm*, poor nutrition of the hair and predominance of *Burudat* (coldness) in the body.^{4,7} According to *Jalinoos* it is caused by fungus. According to *Aristoteles* when production of *Balgham* (Phlegm) is increased greying of hair occurs. Premature graying of hair occurs due to *Yabusat* of the body after certain morbid conditions.¹⁴ White and silver hairs might begin to develop at whatever stage in life, and might be brought about by a scope of various elements. Deficiency of vitamin B-6, B-12, biotin, vitamin D or vitamin E can add to untimely turning gray.

One study conducted in 2015 on premature graying hairs reported that various deficiency studies on vitamin D-3, vitamin B-12, and copper and their connection to graying hair. They concluded that the nutritional deficiencies affect pigmentation, suggesting color can return with vitamin supplementation. Another study in 2016 was conducted in pre University children and were reported that various factors related to premature graying in young Indians were under 25 years of age. It was also found that the low levels of serum ferritin, which stores iron in the body, vitamin B-12, and the good cholesterol HDL-C were common in participants with premature hair graying.¹⁵⁻¹⁷

Factors associated with premature hair graying

Hyperlipidemia was discovered by Kocaman et al. to be an independent predictor of PGH.¹⁸ In their questionnaire survey, Shin et al. discovered a strong correlation between PGH and obesity.¹⁹ Similar results were obtained by Paik et al., who observed that the PGH group had a greater mean waist circumference than the controls.²⁰ There is a documented positive correlation between the degree of graying hair and coronary artery disease (CAD). The Copenhagen City Heart study's secondary data analysis revealed a correlation between graying hair and myocardial infarction (MI) in males with a relative risk of 1.9.²¹

Diagnosis

PGH is diagnosed mainly on clinical basis. Graying usually begins at the temporal region of scalp and it also involves vertex and other parts of the scalp.^{2,8}

Treatment

Hair Dyes and Colorants can be a temporary treatment option but irritant and allergic effects to some individuals are reported, it also increases the socioeconomic burden. Treatment options for PGH is calcium pantothenate, PABA, or both in combination and treating the accompanying pathological conditions. Herbal Medicines are reported as effective treatment option for PGH.^{12,17}

Unani drugs used for the treatment of premature graying of hair have the properties of *Musawwid-e-shaar* (Blackening of hairs), *Muqawwi-e-shaar* (Strengthening of hairs), *Munbit-e-shar*, *Muhafiz-*

e-shaar; *Qabiz*, *Habis*, with *Lateef Hararat*, *Mukhrij-e-balgham*, *Muqawwi e Aam*, *Mujaffif* (Detergent) etc. Single drugs having these properties are *Sumbul-ut-teeb* (*Nardostachys jatamansi*), *Zaranbad* (*Curcuma zedoaria*), *Amla Sabz* (*Emblica officinalis*), *Bhangra Sabz* (*Eclipta alba*), *Barg Hina Sabz* (*Lawsonia inermis*), *Roghan Kunjad* (*Sesamum indicum*), *Aas* (*Myrtus communis* Linn), *Shoneez*, *Zaitoon* (*Olea europaea*), *Harad* (*Terminalia chebula* Linn), *Baheda* (*Terminalia bellirica* Linn), *Aqaqia* (*Acacia arabica* Linn), *Mazu* (*Quercus infectoria*), *Methi* (*Trigonella foenum-graecum*), *Qarnphal* (*Myrtus Caryophyllus Spreng*), *Joz bova* (*Myristica fragrans*), *Gudhal* (*Hibiscus rosa-sinensis*), *Phitkari* (Alam) etc (Figure 2).^{21,22}



Figure 2 Medicinal plants useful of premature graying hairs.

Black Sesame Seeds: Sesame seeds, especially the black sesame, are known to blacken the hair. **Amla:** Amla enriches hair pigmentation. **Curry Leaves:** Using curry leaves is extremely beneficial in preventing graying hair.^{22,23}

Compound drugs

Compound drugs are *Itrifal Ustukhudus*, *Itrifal Sagheer*, *Jawarish-e-Jalinoos*, *Majoon Biladur*, *Roghan-e-Amla*, *Roghan-e-Baiza Murgh*, *Roghan-e-Aas*, *Roghan-e-Khardal*, *Roghan-e-Shoneez*.^{12,13,24} These drugs have less or no harm or adverse effects mentioned in literature by many Unani Physicians.^{4,5}

Conclusion

There can be many causes other than age that outcome in an individual's hair becoming white. Like lack of nutrient, genetic, autoimmune diseases, smoking etc. Among these most of people have nutritional deficiencies that causes premature graying hairs. So eating a well-balanced diet rich in vitamins and nutrients can boost hair growth and strengthen hair strands. Apart from these using herbal remedies extremely beneficial in preventing greying of hair and strengthen hairs.

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Conflicts of interest

Authors declare that there is no conflict of interest exists.

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