

REVIEW ON PREMATURELY GREYING OF HAIR IN CHILDREN: CLINICAL
ASPECTS, ETIOPATHOGENESIS AND HOMOEOPATHIC MANAGEMENTDr. Rushikesh Santosh Mohite^{*1}, Dr. Mangal Navnath Gunjal², Dr. Poonam Bharatrao Shinde³¹BHMS, MD Part-2 (Paed.) Scholar (PG), Sonajirao Kshirsagar Homoeopathic Medical College, Vidya Nagar, Beed, India.²BHMS, MD Part-1 (Paed.) Scholar (PG), Sonajirao Kshirsagar Homoeopathic Medical College, Vidya Nagar, Beed, India.³BHMS, P.G., Assist. Prof. & Guide, Paed Dept., Sonajirao Kshirsagar Homoeopathic Medical College, Vidya Nagar, Beed, India.***Corresponding Author: Dr. Rushikesh Santosh Mohite**BHMS, MD Part-2 (Paed.) Scholar (PG), Sonajirao Kshirsagar Homoeopathic Medical College, Vidya Nagar, Beed, India. DOI: <https://doi.org/10.5281/zenodo.22156790>**How to cite this Article:** Dr. Rushikesh Santosh Mohite^{*1}, Dr. Mangal Navnath Gunjal², Dr. Poonam Bharatrao Shinde³ (2026). Review on Prematurely Greying of Hair in Children: Clinical Aspects, Etiopathogenesis and Homoeopathic Management. European Journal of Pharmaceutical and Medical Research, 13(9), 44-47.

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ABSTRACT

The incidences of premature greying of hair mainly associated with lifestyle factors, mental stress, dietary imbalances and genetic factors, etc. Biologically, losses of melanocyte stem cells or decreased melanin production in hair follicles triggers premature greying of hair. In children, it is frequently linked to underlying conditions like vitiligo or thyroid dysfunction, as well as nutritional deficiencies of Vitamin B12, Vitamin D3, iron, copper and zinc. Beyond physical health, hair serves as a key aesthetic element and non verbal communication tool; premature greying of hair can severely impact an individual's body image and self-esteem. Mainstream of dermatology focuses primarily on targeted dietary supplementation and correcting nutritional deficits, while homoeopathy offers holistic alternative for such types of condition. Addressing deep rooted systemic causes through individualized treatment homoeopathy aims to deliver personalized, long-term management.

KEYWORDS: Premature Greying, Hair, Homoeopathy, Hair Follicle, Melanocyte.**INTRODUCTION**

Hair pigmentation is determined by the production of melanin through the specialized cells known as melanocytes located within the hair follicle. The colour of human hair ranges from blonde, brown, and red to black, depending on the type and quantity of melanin present. Two major forms of melanin contribute to hair colour: eumelanin, which imparts brown to black shades, and pheomelanin, which produces red to yellow-brown pigmentation. Hair growth occurs in three sequential phases: the anagen (growth) phase, during which the hair shaft is actively produced and melanogenesis takes place; the catagen phase, characterized by apoptosis and regression of the hair follicle; and the telogen phase, during which hair growth and pigmentation cease. Active melanin synthesis is confined to the anagen phase, which typically lasts 3-5 years, while pigment production is switched off during the catagen phase.^[1-4]

Prevalence

Hair greying is a normal physiological manifestation of chronological ageing that occurs irrespective of gender, although the age of onset varies among different ethnic groups. Hair greying is considered premature when it occurs before the age of 20 years in Whites, 25 years in Asians, and 30 years in Africans.^[2-4]

Etiological Factors

Premature greying of hair is a multi-factorial condition influenced by genetic, autoimmune, nutritional, and environmental factors. Common causes include autosomal dominant inheritance, autoimmune disorders such as pernicious anaemia and hypothyroidism, premature ageing syndromes, and inherited genetic disorders that impair melanin synthesis. Nutritional deficiencies, chronic psychological stress, smoking, oxidative stress, and certain systemic illnesses have also been implicated in the pathogenesis of premature hair

graying. Table 1 presented major role of etiological factors in the prematurely greying of hair.^[4-6]

Table 1: Role of etiological factors in the prematurely greying of hair.

Etiological Factors	Mechanism
Genetic Factors	Genetic defects affecting melanocyte stem cells and pigmentation genes lead to reduced melanin production and early hair greying.
Nutritional Deficiencies	Deficiency of vitamin B ₁₂ , iron, copper, zinc, and folic acid impairs melanogenesis. Copper is a cofactor for tyrosinase, while vitamin B ₁₂ and iron are essential for normal hair follicle metabolism.
Oxidative Stress	Accumulation of hydrogen peroxide and reduced catalase activity cause oxidative damage to melanocytes, leading to impaired melanin synthesis and premature depigmentation.
Endocrine and Autoimmune Disorders	Thyroid dysfunction, vitiligo, pernicious anaemia, and other autoimmune disorders can disrupt melanocyte function and hair pigmentation.
Psychological and Lifestyle Factors	Chronic stress, anxiety, inadequate sleep, poor diet, excessive screen time, and sedentary lifestyle increase oxidative stress and negatively affect melanocyte activity.
Environmental and Chemical Exposure	UV radiation, air pollution, hard water, and frequent use of chemical based hair products may damage hair follicles and melanocytes, accelerating premature greying.

Characteristics features

Grey or non pigmented hair differs structurally from pigmented hair, being coarser, stiffer, drier, and more susceptible to ultraviolet induced damage. These structural alterations also make cosmetic colouring more challenging. Premature greying is often more noticeable in individuals with naturally dark hair. Both males and females are affected equally; however, the pattern of onset differs, with greying commonly beginning at the temples and sideburns in males and along the frontal hairline or scalp circumference in females.^[5-7]

Pathogenesis and Diagnosis

The primary mechanism underlying hair greying is the gradual depletion and dysfunction of melanocytes and melanocyte stem cells within the hair follicle, resulting in reduced melanin production. Oxidative stress, caused by an imbalance between reactive oxygen species and antioxidant defense mechanisms, further damages melanocytes and accelerates the loss of pigmentation.

The diagnosis of premature greying is primarily clinical and usually does not require extensive investigations.

However, laboratory evaluation, including serum vitamin B₁₂, folic acid, ferritin, thyroid function tests, and other relevant nutritional assessments, may be performed to identify and correct potentially reversible causes.^[6-8]

SCOPE OF HOMOEOPATHY

Homoeopathy adopts a holistic and individualized approach in the management of premature greying by addressing the underlying constitutional predisposition rather than merely treating the cosmetic manifestation. Individualized constitutional prescribing aims to improve the patient's overall health, restore metabolic and nutritional balance, reduce the impact of stress, and correct underlying miasmatic tendencies that may contribute to premature loss of hair pigmentation. Homeopathic practitioners consider that stress, emotional disturbances, hereditary tendencies, endocrine disorders, and nutritional deficiencies may all influence the development of premature greying, and remedy selection (**Figure 1**) is therefore individualized rather than disease-specific.^[7-9]

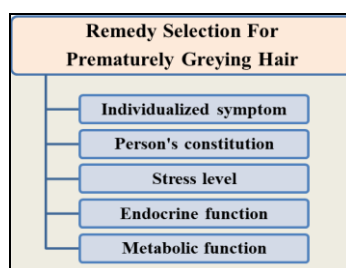


Figure 1: Major criteria used for remedy selection of Prematurely Greying Hair.

Several homoeopathic medicines are frequently cited in the literature for the management of premature greying based on the characteristic symptom profile of the

patient. The primary goal of homoeopathic management is not merely the cosmetic improvement of hair colour but the correction of the individual's constitutional

imbalance and maintenance of overall health. Although these remedies are widely described in homeopathic literature and clinical practice, robust high-quality clinical evidence demonstrating their effectiveness in reversing premature greying of hair. Several homeopathic medicines are frequently indicated according to the patient's symptom totality as mentioned below.^[7-10]

- ✓ Phosphoric acid is commonly prescribed when premature greying follows prolonged mental stress, grief, or physical exhaustion.
- ✓ *Natrum muriaticum* is indicated for emotionally sensitive individuals with dry, brittle hair and a history of suppressed emotions.
- ✓ *Lycopodium clavatum* is useful in cases associated with premature ageing, digestive disturbances, and nutritional imbalance.
- ✓ Silicea is often recommended for weak, brittle hair accompanied by poor nutrition and defective assimilation.
- ✓ *Calcarea carbonica* is considered in individuals with delayed development, profuse perspiration, and characteristic constitutional features.
- ✓ Sulphur is useful in chronic cases associated with scalp itching, excessive heat, unhealthy skin, dandruff, and recurrent scalp disorders.
- ✓ Pilocarpus recommended when premature greying is associated with diffuse hair thinning, dry scalp, and excessive hair fall.
- ✓ Tuberculinum occasionally used as an intercurrent constitutional remedy in individuals with a

tubercular diathesis, recurrent respiratory illnesses, and early manifestations of premature ageing.

Tentative Mode of Action of Homeopathic Remedies

Homeopathic treatment for premature greying of hair focuses on tackling the underlying problem, including factors such as lack of nutrition, prolonged stress, poor digestion and metabolic irregularities. Homeopathic treatment is performed based on approach of individualized constitutional approach. The patient's constitution determines the remedies used, depending on the diagnosis of the patient's mental, physical and emotional state. Homeopathic remedies improve metabolic processes and digestion, so that sufficient nutrients are absorbed for proper melanogenesis. For those patients who have issues with hair pigmentation due to mental trauma and stress, homeopathic medications are used to restore emotional balance and eliminate stress that would negatively impact hair pigmentation.^[5-8]

Repertorial Approach

The process of repertorial analysis involves discovering different types of treatments that can help with hair disorders such as early greying of hair and hair loss. The repertories provide indications regarding various conditions related to hair loss due to grief, fatigue, childbirth, trauma, oily or weak hair, splitting of hair, alopecia areata, early greying of hair, and loss of hair from scalp, eyebrows, eyelashes, and any other area of the body. Individual medicine is used after taking into consideration the totality of symptoms and constitutional type of the patient as depicted in **Table 2.**^[8-10]

Table 2: Repertorial approach for greying hair.

Repertory Rubric	Commonly Indicated Remedies
Hair falling from grief	Caust., Graph., Ign., Lach., Lyc., Nat-m., Ph-ac., Staph.
Hair falling after injury	Hyper.
Hair falling with premature greying	Vinc.
Hair falling with greasy scalp	Bry., Caust., Med., Merc., Nat-m., Ph-ac., Plb., Sulph., Thuja., Tub.
Brittle hair	Psor.
Splitting of hair	Borx., Thuja.
Hair loss from eyebrows	Agar., Ail., Alum., Aur-m., Helleb., Kali-c., Plb., Sel., Sil., Sulph.
White eyebrows	Ars-h.
Hair loss from eyelashes	Alum., Apis., Ars., Aur., Calc-s., Chel., Med., Merc., Ph-ac., Psor., Rhus-t., Sel., Sep., Sil., Staph., Sulph.
General hair loss	Alum., Ars., Calc., Carb-an., Carb-v., Graph., Helleb., Kali-c., Lach., Nat-m., Phos., Sabin., Sec., Sel., Sulph.

CONCLUSION

Premature greying of hair is a multi-factorial condition influenced by genetic predisposition, oxidative stress, nutritional deficiencies, endocrine and autoimmune disorders, psychological stress and environmental factors. Early identification and correction of reversible causes are essential to prevent further progression and improve hair health. Homeopathy, through its holistic and individualized approach, aims to address the underlying constitutional and systemic factors rather than

the cosmetic manifestation alone. Commonly indicated treatments in homeopathy for premature greying of hair comprise the usage of *Natrum muriaticum*, *Silicea*, *Calcarea carbonica*, *Pilocarpus* and *Lycopodium clavatum*, etc. These treatments are prescribed based on the individual symptoms and the possible cause of greying. The focus of homeopathic treatment is on repairing other effects, such as nutritional deficiency, digestive problems, stress and metabolism associated with prematurely graying hair.

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