



Review Article

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HAIR AND HAIR CARE: AN OVERVIEW

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ABSTRACT

Beautiful and healthy hair is a sign of health and beauty. Knowledge of hair and hair care is important to achieve that. This article reviews the anatomy, diseases and the diagnosis of common hair diseases. It also suggests the general management, nutritional requirements and hair care methods. Hidden harms of the hair products are also discussed. Understanding one's hair problems and managing them rationally can help to maintain the hair and also to revive them.

Keywords: Hair, hair care, hair nutrition

INTRODUCTION

As we all know, hair is one of the defining characteristics of mammals. It is a protein filament that is grown from follicles found in the dermis or skin. Hair is considered a sign of beauty in almost every culture. Long hair for ladies is a sign of health and beauty. The importance of hair can be seen in Vedic literature. There are hymns related to hair growth and mentioning of different hair diseases can also be seen. Some choose a specific

hairstyle to be identified as a particular class of people. The ancient science of cosmetology is believed to have originated in Egypt and India, but the earliest records of cosmetic substances and their application dates back. There have been ancient methods for beautifying hair including treatments even for premature graying. Today's busy and stressful life has a drastic impact on our hair and hence true care should be given to make it healthy. For this, a proper understanding of hair, its growth, and the nutritional demands need to be studied and practiced.

Anatomy of Hair¹

Hair is a derivative of the epidermis. Hair has two separate structures: the follicle in the skin and the hair shaft, which is visible on the body surface. The hair shaft consists of a cortex and cuticle cells, and in some cases, a medulla in the central region

Cuticle	It varies in Scale, Thickness, Pigment	Important in distinguishing between hairs of different species.
Cortex	It varies in Thickness, Texture, Color	A most important component in determining from which individual a human hair may have come
Medulla	It varies in Thickness, Continuity, Opacity ¹	

Phases of Hair cycle

1 st Phase Anagen / Active Phase	Here, hair grows and replaces old hair	Continues growing over several weeks to a few years
2 nd Phase Catagen phase / Transition Phase	Here changes the active hair to resting hair	This phase lasts for three weeks
3 rd Phase Telogen Phase	Here, the hair will stay in the scalp without growing and can be removed by pulling and combing the hair	Lasts up to 3 months

It is estimated that the scalp consists of 87-90% of hairs in the Anagen phase, 1% in the Catagen phase, and 10-13% in the Telogen Phase.

T.E can be due to iron deficiency, Hypoalbuminemia, thyroid dysfunction, postpartum, fever, prolonged operation or anesthesia and less commonly due to chronic diseases like a chronic renal disease. Usually, this condition affects females and children.

Common acquired causes of Hair loss

1. Telogen effluvium: One of the commonest causes of hair fall. This condition is characterized by diffuse hair shedding due to a disturbance in the hair cycle. The patient may complain of increased hair loss while shampooing or combing. The daily hair loss can be up to 1000 hairs.
2. Androgenetic alopecia: Also known as common balding. This condition is characterized by shedding and thinning of a certain area on the scalp. This can affect males and females. It is due to progressive miniaturization of hair which means a progressive transformation of the terminal (coarse) hair into vellus (fine) hair follicle.

3. Alopecia Areata: The main types of alopecia areata include a localized bald area in the scalp, brows, or beard area, balding of total scalp area (Alopecia Totalis), and baldness of total body (Alopecia Universalis). A defect in the immune system, causing inflammation of hair roots and this hair loss is probably the causative factor.
4. Trichotillomania: In a psychotic disorder with a morbid impulse to put their hair and is characterized by non-scarring alopecia. There is a female predominance with a ratio of 3:5:1. It prevents non-scarring alopecia patches on the contralateral side of right- or left-handed person containing hair fall with varying. This condition is considered an impulse control disorder.
5. *Tinea capitis*: The word Tinea means fungal infection. Capitus indicates the scalp. It is a common cause of hair loss in children. *Tinea capitis* is commonly caused by dermatophytes.²

Assessment of Patients with Hair loss

The history is very important to establish the initial differential diagnosis and management. The duration and the pattern of hair loss is the initial thing that needs to inquire about. The process of shedding and thinning is important on telogen effluvium and androgenetic alopecia. The medical, drug, and family histories are important to identify the underlying causes².

The hair disorders are divided into scarring (cicatricial) and non-scarring (non-cicatricial) hair loss³. This can be determined by examining the affected area. If the area is devoid of hair orifices and associated with atrophy, then it is scarring alopecia. If hair orifices are preserved, then it is considered as a non-scarring hair loss.

After gathering all this information, an initial diagram with or without a differential diagnosis can be established and manage the patient accordingly.

Tests for diagnosing: There are simple tests that can be used to help in the diagnosis, and these include the hair pull test, Trichogram, wood's light, and scalp biopsy. If indicated, these tests are considered after taking the history, examining the patient, and establishing the initial diagnosis.^{3,4}

Diagnosis of Hair problems

Diagnosis of hair fall and common baldness is not difficult. History taking and scalp examination are crucial for initial diagnosis and management. Acute hair shedding may indicate telogen effluvium whereas chronic hair thinning may indicate androgenetic alopecia. A child with a history of seborrheic dermatitis-like hair loss may have *Tinea capitis* scalp examination will give a clue whether alopecia is scarry/non-scary. All these conditions need assessment and management.

Factors affecting the Hair

- **Age**

Many hair follicles stop producing new hairs. Hair strands become smaller and have less pigment. Hair becomes less dense and the scalp may become visible.

- **Hereditary**

Genetic factors are responsible for the density, length, color, and texture of hair. Heredity disorders can affect either hair alone, hair or other ectodermal structures, or can be pan-systemic.

- **Stress**

Excessive stress and some mediators are conclusively known to retard hair growth and promote hair loss.

- **Hormonal changes**

Thyroid imbalances drop in levels of estrogen, Androgen hormones like testosterone and DHEA abnormalities can cause hair loss.

- **Anemia**

Iron contributes to the production of hemoglobin and this hemoglobin delivers nutrients and oxygen to your hair's cells, which is vital for their growth. Lack of iron, which also means low hemoglobin levels, leading to loss of hair.

- **Sun exposure**

Sun damage can also have an impact on thinning hair by triggering the production of the compound superoxide, which can cause hair follicles to move from the growth part of the cycle to the shedding part.

- **Improper hair care**

An excessive amount of brushing, hair ties that pull on the scalp and hair cuticles, blow-drying, chlorine and saltwater, etcare having a harsh impact on our hair, often causing them to become dry, brittle and lackluster.

- **Nutritional deficiencies**

Deficiency of Iron, Zinc, Niacin, selenium Fatty acids, Vitamin A, D, E, etc can cause hair fall.

- **Smoking**

The toxic chemicals in cigarette smoke restrict circulation by shrinking blood vessels and impeding blood flow. When follicles don't receive the blood for nourishment, the hair growth cycle is interrupted.

- **Weight loss**

Been on a strict diet and suddenly losing a lot of weight can cause hair damage.

- **Synthetic products**

Use of hair spray, hair gels and styling creams that contain harsh chemical ingredients can damage hair; changing shampoo and conditioner constantly. Stick to one mild cleansing shampoo for six months before changing

- **Medications**

Blood thinners and beta-blockers, Antidepressants, nonsteroidal anti-inflammatory drugs, and Chemotherapy are linked with hair loss.

General management

Nutrients and minerals

Nutrients necessary for preventing hair loss and promoting hair growth are given below. Adequate intake of the nutrients should be ensured for maintaining healthy hair.⁵

Table 1: Nutrients and minerals which help in preventing hair loss

Nutrients and minerals	Mechanism of preventing hair loss
Niacin (Vit B ₃)	<ul style="list-style-type: none"> Enhances blood flow to the scalp through Vaso-dilating effects
Vitamin B Complex	<ul style="list-style-type: none"> Improve blood flow to the scalp Decrease cholesterol accumulation to the scalp Protects hair and scalp from free radical change
Vitamin C	<ul style="list-style-type: none"> Helps in the production of an essential protein called collagen which strengthens blood vessels that supports the hair shafts
Ascorbic acid (Vit C)	<ul style="list-style-type: none"> Improves blood flow to the scalp and maintain capillaries carrying blood to follicles
Tocopherol (Vit E)	<ul style="list-style-type: none"> Enhances oxygen uptake and then improves blood flow to the scalp
Zinc	<ul style="list-style-type: none"> Enhances immune function and thus stimulates hair growth
Essential fatty acids	<ul style="list-style-type: none"> Improves hair texture Protects loss of dry brittle hairs
Amino acids	<ul style="list-style-type: none"> Improves quality of hair texture

Diet

Before you start losing sleep over hair loss and book appointments with Trichologist, an analysis of our food should be done. Even slight modifications in our daily diet menu by incorporating ingredients that aid hair growth and hair health will have a drastic impact.⁶

Table 2: Nutrients which help in preventing hair loss

Carrots	<ul style="list-style-type: none"> Rich in Vit A -provide excellent nourishment for the scalp.
Prunes	<ul style="list-style-type: none"> Great sources of iron and greatly help improve the quality of hair
Oats	<ul style="list-style-type: none"> Loaded with fiber that helps maintain a healthy heart and bowels The high concentration of essential nutrients such as zinc, iron, omega-6 fatty acids. It is essential to maintain normal skin, hair growth, and development
Shrimp	<ul style="list-style-type: none"> Potent concentration of Vit B12, iron, zinc Contain all necessary nourishment to prevent hair loss
Walnuts	<ul style="list-style-type: none"> Have more omega-6 fatty acids than any other food Full of zinc, iron, Vitamin B, and plenty of proteins
Eggs	<ul style="list-style-type: none"> Loaded with proteins, vitamin B12, iron, zinc, and omega-6 fatty acids in large amounts.
Low-fat dairy products	<ul style="list-style-type: none"> E.g. Skim milk and Yogurt - Great source of calcium
Fruits	<ul style="list-style-type: none"> E.g. oranges, papaya, blueberries, Lime, and Kiwi

Hazards of Synthetic Hair Products

Nowadays shampoos, hair dyes, and other hair products are loaded with chemicals like Parabens, Hydrogen Peroxide, Ammonia, Persulfates, P-phenylenediamine and Sodium lauryl sulfate (SLS), Diethanolamine (DEA) and lots more. They break down the proteins our hair needs to grow, and they strip away the protective oils of hair resulting in damage to the hair cuticle which can cause the hair to dry out and then breakage.

Apart from the damages to the hair, the most alarming is its deleterious effect on overall health. Among these chemicals, Sodium lauryl sulfate (SLS), Diethanolamine (DEA), Parabens are carcinogens and Resorcinol is a hormone disruptor. P-phenylenediamine hampers the Immune system, hydrogen peroxide disturbs the digestive system, lungs, CNS, and also damage DNA. Hence careful selection of the hair products after analyzing the ingredients should be done.

CONCLUSION

Avoiding the harmful measures and taking care of hair logically can help to have beautiful and strong locks. The following measures can be adopted to get the desired effect.

Washing hair regularly helps to keep scalp and hair free of dirt and excess oil. One should choose an herbal shampoo or with fewer chemicals. Oiling and massaging improve blood circulation on the scalp, relax your muscles, boost shine and nourish the hair. It restores moisture content, enables hair growth and repairs split ends. Air drying or towel is the best way to dry hair. Trimming at regular intervals ensures healthy hair. Drinking at least 3 liters of

water everyday guarantees healthy hair. Internal hydration is one key to well-balanced and healthy hair. Hair, which is made of proteins and amino acids, needs the right nutrition to grow well and maintain itself.

Hence nutritional food intake is necessary. Stress can cause hair fall and unhealthy hair and so a calm mind is a must for healthy hair. Avoid hot showers that strip off the natural oils from your scalp leaving it dry and flaky. Saltwater damages the hair cuticle irritates the scalp and makes the hair tangled and the same with chlorinated water. Excessive heat styling can damage the hair scalp and chemicals from hair dye and other hair treatments affect hair follicles, disrupt hair growth and can also lead to hair fall. Heat styling using straighteners, blow dryers and curlers for a prolonged period can change hair texture, makes hair dry and prone to breakage.

REFERENCES

- Barbara, Buffoli, Fabio Rinaldi, Mauro Labanca *et al.* The human hair: from anatomy to physiology: Int J Dermatol 2014; 53(3): 331-41.
- Phillips J.H, Smith S.L, Storer, J.S. Hair loss Common congenital and acquired causes. Postgrad Med 1986; 79(5): 207-15.
- Caroline Le Floc'h, Ahsène Cheniti, Sophie Connétable, Nathalie Piccardi, Colombina Vincenzi. Effect of a nutritional supplement on hair loss in women. J Cosmet Dermatol 2015; 14(1): 76-82.
- Frank Spano, Jeff C Donovan. Alopecia areata: Part 1: pathogenesis, diagnosis, and prognosis. Can Fam Physician 2015; 61(9): 751-5.

5. Andreas M Finner. Nutrition and hair: deficiencies and supplements. *Dermatol Clin* 2013; 31(1): 167-72.
6. Lynne J Goldberg, Yolanda Lenzy. Nutrition and hair. *Clin Dermatol* 2010; 28(4): 412-9.
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