

A New Approach to Hair Loss Management without DHT Blockers

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Trichologists and Hair Specialists have been searching therapies for years, to help their patients effectively. Though plagued with side effects, prescription medications have been the main choice in treating hair loss patients with doubtful clinical support and evidence of raised hormones. Most patients do not have raised androgens or dihydrotestosterone (DHT) levels [1]. Even the Thyroid levels, Ferritin and Vit. D levels are not always found deviating from the normal range, though clinically the patient is suffering hair loss. Our initial understanding of hair loss merits it to be labelled as Androgenetic Alopecia. However gradually correlating with clinical evidence we realized that the hair loss can occur with normal androgen levels (1). It can occur without family history [2], it can skip siblings and skip generations. It can also occur without any family history. Therefore it is not necessarily genetic or androgenic. Due to which we changed the nomenclature to more appropriate terms, calling it male pattern hair loss (MPHL) and female pattern hair loss (FPHL). After further review of clinical reports and records, research workers found that this hair loss does not always follow a pattern, so they have defined a new entity of diffuse unpatterned hair loss or DUPA.

Overall with all our efforts in a hair loss patient, we cannot assure and determine a specific cause. Androgens may not be raised. If we say hair loss is due to bad water in a town, you sure have many people with good hair living in the same town. If we say stress, there are many people doing the same jobs, meeting the same deadlines and not losing their hair. If we blame DHT, there are persons with normal DHT levels losing hair.

Researchers now agree that it is not the raised levels of DHT but increased sensitivity of the follicle or weakness of the follicle that results in damage and hair loss [3], despite normal DHT levels. The metabolism of DHT in the hair follicle tissue at the cellular level is at fault. Altered metabolism can be caused by an imbalance of the internal environment which as we know has been the common predisposing cause and origin of multiple illnesses like, heart disease, hypertension, diabetes and cancer. Derangement of the internal cellular environment is primarily caused by the accumulation of free radicals, the reactive oxygen species

(ROS) along with poor repair and restoration of the damaged cells due to essential nutrient deficiencies.

With this background in mind, should we have a new approach towards hair loss management instead of fighting DHT, expecting side effects and not supporting cell repair or cell growth with a balanced internal environment. The traditional or conventional teaching makes us approach hair loss as a sickness or disease. Hence, we are trying to search for a cause and treat the cause as we do for all medical problems. We would like to suggest, that hair loss is not a sickness or a disease but a slowing down of the biological cycles due to unfavourable conditions of the internal cellular environment [4]. Can we improve the internal environment and strengthen the weak, sensitive hair follicles to achieve better hair growth instead of merely fighting hair loss with enzyme blockers.

Researchers agree that hair loss is multifactorial-genetic, androgenic, inflammatory, immune mediated, nutritional or from an imbalance causing a dysregulation of the hair growth cycles [5-7]. The factors affecting hair loss can be divide into two types. The predisposing factors and the sensitizing factors. Predisposing factors can be Genetic and/or Hormonal. Sensitizing factors are often inflammatory, immunity and nutrition driven, which can alter the internal cellular environment making it unfavourable for hair growth (**Table 1**). Sensitizing factors weaken the hair follicles making them sensitive even to normal hormone levels. Thus we find hair loss with normal DHT and normal androgens. Sensitizing factors cause dysregulation of the hair growth cycles through micro inflammation, altered immunity and nutritional deficiencies leading to slowing down of hair growth, gradual hair loss

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Table 1. Some of the factors causing hair loss due to dysregulation of hair cycle or unfavourable conditions for hair growth without any role of DHT

Internal Factors	External Factors
Iron, calcium deficiency	Smoking, Hookah, Passive smoking,
Vit. A, C, E, D deficiency	Tobacco, Pan, Beetle nut, Tea
Overuse of Vit. & Supplements	Alcohol
Thyroid hypo or hyper	Hard water areas,
Side effect of medications	Stress, Lifestyle,
Metabolic disease, diabetes, gout	Lack of sleep,
Siborrhoeic scalp	Exposure to excess heat or cold
Prolonged illness	Dryness of the Scalp
Crash Dieting	Exposure to Dust, Pollution,
Poor fluid intake	Continuous Air Conditioning
Fat free Diet,	Exposure to chemical fumes
High Protein Diet	Mining areas, Construction work
Derangement of liver function	Pressurised Airline Cabins
Derangement of Kidney function	Over use of Hair Products
Post Pregnancy Hair loss	Blow drying

and baldness. This type of hair loss we should recognize as 'Non Hormonal Hair Loss'. The non-hormonal causes are interlinked, affecting individually and then, one cause leading to the other. We have seen that use of antioxidants to prevent accumulation of ROS, providing nutritional support for recovery and growth of damaged cells has clinically resulted into new hair growth in men and women without blocking the normal levels of androgens or DHT. It is not wise to judge the hair growth without correcting the factors that make the cellular environment unfavourable for hair to grow. A controlled clinical trial for hair loss management, using antioxidants, iron, calcium, aminoacids, B-complex, biotin, in men and women without the use of anti-androgens or DHT blocker Finasteride showed an average improvement in density of 18% at 2 months and 30% and at 4 months (**Figures 1a and 1b**). The average improvement in calibre in 2 months was 9% and at 4 months



Figure 1a. Hereditary hair loss in a male patient.

was 21%. Hair loss was controlled within 4-6 weeks [8]. The approach has also helped in hair loss due to smoking [9], hair loss due to pollution [10], poor hair structure from hair shaft disorders like monilethrix [11] and hair loss from exposure to cell phone radiation [12], apart from routine hair loss seen in routine clinical practice. **Figures 1a and 1b** show improvement in hair density and calibre achieved in four months with use of nutritional supplements and without the use of DHT blocker, finasteride.



Figure 1b. Improvement in hair quality, density and caliber after 4 months of nutritional therapy.

CONCLUSION

In conclusion, hair loss is not always androgenic or genetic. Non hormonal factors can lead to hair loss which clinically displays all characteristics of hormonal hair loss. Correction of nutrition can restore the balance of the internal environment of the body leading to promotion of strong and healthy hair growth. Once the hair follicles are strong they can stand against any cause, just like many others exposed to the same causes and living in the same circumstances, who have similar tissue DHT levels as our patients and do not have any hair loss. The new approach will help in long term hair loss management without side effects.

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