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The reasons and solutions for lipsotrichia and pelada phenomenon

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Abstract. According to Darwin's evolution, people know that humans evolved from certain types of apes which used to have a lot of hair. In the process of evolving from apes to humans, apes' hair was lost gradually. Nowadays, there is only a little bit of hair that modern humans still left, like hair on the heads and four limbs. NLM database reported an experiment that justified hair on the heads can protect human brains by reducing solar radiation. But many people, because of some reasons, like genes, immune system, and endocrine, have hair loss problems, which leads to possible damage to their brain and appearance. This paper aims to explore the way to mitigate scarring alopecia and androgenetic alopecia. The results show that people can prevent their hair by changing their life habits cleaning their scalps carefully and having a good mood. If they already get scarring alopecia, people must take medicine based on medical advice. And if people get androgenetic alopecia, they should use Minoxidil. This paper can help people with hair loss problems grow their hair back so that it can better help the brain dissipate heat.

Keywords: Hair, lipsotrichia, pelada, prevent, treat.

1. Introduction

Nowadays, an increasing number of people lose their hair and even many young people seek help online on how to get more hair. As for the causes of hair loss in old people, a lot of seniors are at risk of hair loss because as they age, the hair matrix cells which are in hair follicles degenerate gradually, and therefore less hair protein is produced. And 4 main factors contribute to hair loss in young people. Firstly, people in stressful environments and sleeping badly can lead to hair loss. It is because chronic stress and poor sleep can lead to endocrine imbalance and thus hair loss. Eating poorly can also cause hair loss because fewer nutrients are provided to the hair matrix cells. Finally, some medical treatments may lead to hair loss, such as radiotherapy which can hurt hair follicles. Tina Lasis, James W. Snallcombe, and a lot of people experimented. They utilized warm puppet and human hair hairpieces at various breeze speeds in a temperature and moistness-controlled climate, with and without reenacted sun-powered radiation, and they gathered information on the convective radiative, and evaporative intensity transitions to and from the scalp about properties of the scope of hair morphologies, as well as a bare scalp. They proved that hair plays an important role in dissipating. So it is necessary to treat lipsotrichia and pelada. This paper, by analyzing the available literature and data, mainly pays attention to the 2 types of hair loss (scarring alopecia and androgenetic alopecia) and how to prevent and treat them so that human hair can help the brain reduce solar radiation better. For the 2 types of hair loss, there is the

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same method to prevent them, and that is to get healthier life habits, such as getting up and going to bed early. And there are different ways to treat them respectively, like reducing some food and getting medicines. This paper will introduce the 2 types of hair loss and provide the methods to treat them.

2. Three types of hair loss

2.1. Androgenetic alopecia

Androgenetic alopecia is the most well-known type of baldness in people and is a typical physiologic variation. It is most pervasive in white men, with 30%, 40%, and half encountering androgenetic alopecia at 30, 40, and 50 years old, separately. Albeit this condition is more uncommon in ladies, 38% of ladies more seasoned than 70 years might be impacted. Numerous patients with androgenetic alopecia have a family background of this condition. Hair diminishing happens in a sex-explicit example. Men commonly present with bitemporal diminishing, diminishing of the front-facing and vertex scalp, or complete balding with lingering hair at the occiput and transient fringes.5 Ladies regularly present with diffuse hair diminishing of the vertex with saving of the front-facing hairline. A few ladies experience diminishing over the horizontal scalp. Normal circumstances that mirror androgenetic alopecia incorporate thyroid sickness, iron inadequacy weakness, and hunger [1].

2.2. Scarring alopecia

Figure 1. Patchy Baldness Characteristics [2].

Scarring alopecias are a gathering of immovable and unprecedented balding problems described by long-lasting hair follicle obliteration. The most ordinary clinical sign of cicatricial alopecia is the deficiency of noticeable follicular ostia in a scarring region(a). The histopathological sign of a completely evolved injury is the substitution of the hair follicle structure for stringy tissue. Cicatricial alopecia might result from injury (consumes, radiation, footing), infiltrative cycles (sarcoidosis, carcinomas), or contamination (dermatophyte) In those circumstances, the hair follicle is a “by-stander” sadly engaged with more worldwide harm in the scalp; consequently, long-lasting balding is an optional occasion (optional cicatricial alopecia).In contrast, essential cicatricial alopecias (PCA) are a gathering of problems, where the hair follicle is the fundamental objective of damaging irritation bringing about irreversible balding. PCA incorporates the states of different clinical and obsessive elements. This, along with conflicting utilization of phrasing, has hampered a far-reaching meaning of the clinicopathological relationship, which has made the investigation of PCA pathophysiology troublesome. A leap forward in how we might interpret PCA was made when hair follicle undeveloped cells were recognized in the

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lump region of the hair follicle. Since the irritation in PCA generally includes the lump locale, it is currently broadly acknowledged that the deficiency of hair follicle undifferentiated cells is the primary justification for super-durable alopecia. Right now, PCA draws significant interest from clinicians and foundational microorganism researchers as a model of organ-explicit undeveloped cell exhaustion. In the current paper, late advances in getting it and the board of PCA are evaluated, particularly zeroing in on current bits of knowledge into etiopathogenesis. Point-by-point portrayals of the clinical and neurotic elements of individual PCA are out of the extent of this survey [2]. Scarring alopecia causes long-lasting balding from the obliteration of the hair follicles by fiery or immune system infections. The most widely recognized reason for this is discoid lupus erythematosus, which produces decayed erythematous patches, in some cases with telangiectasia [3].

3. The prevention of hair loss

If people don't want to lose their hair, they must take some precautions. Firstly, they need to get less food that enriches with Vitamin D and more food that enriches Vitamin B, C, and iron. It is because excess Vitamin D can cause calcium to be deposited on the surface of the scalp, blocking hair follicles and leading to hair loss; vitamin B can reduce sebum production in the scalp and reduce the irritation of hair follicles due to scalp inflammation; Vitamin C can help scalp with antioxidants; and iron can increase the number of keratin which is an important component of hair. Besides, early rising, early night(avoid overwork), and avoiding prolonged stress are good for endocrine balance. People should avoid over-styling, which means using fewer hair dryers and hair curling irons (heat may hurt hair). Regular scalp cleaning is also necessary. It can reduce scalp sebum [3].

4. The methods to treat hair loss

4.1. For androgenetic alopecia

The pathophysiology of androgenetic alopecia is related to the action of androgens in the scalp follicles. The action of these androgens may be related to circulating levels of the hormones as well as to genetic predispositions that influence the activity of these androgens in the periphery. The evolutionary classification of alopecia will follow Norwood for men and Ludwig for women. Hormonal testing will be performed in women only in the context of research or identification of hyperandrogenism; this is essential to guide treatment. Diagnosis and treatment follow-up are inherently clinical but can be aided by three diagrams that will show the miniaturization process of androgenetic alopecia and resting alopecia in affected areas. Treatment of hair loss can be localized or systemic. Topical treatment for both males and females involves the use of 2% to 5% minoxidil lotion. For men, the 5 alpha-reductase 2 inhibitor finasteride has shown efficacy at a dose of 1 mg per day. For women, in the absence of a counterproposal, an estrogenic progestin with an antiandrogen will be used: cyproterone acetate or spironolactone. Therapeutic assessment will be made after 6 months of treatment. Topical treatment for both males and females will be 2% to 5% minoxidil lotion. In men, the 5 alpha-reductase 2 inhibitor finasteride has shown efficacy at a dose of 1 mg per day. For women, in the absence of a counterproposal, an estrogenic progestin with an antiandrogen will be used: cyproterone acetate or spironolactone. Therapeutic assessment will be made after 6 months of treatment. Topical treatment for both men and women will be 2% to 5% minoxidil lotion. In men, the 5 alpha-reductase 2 inhibitor finasteride has shown efficacy at a dose of 1 mg per day. For women, in the absence of a counterproposal, an estrogenic progestin with an antiandrogen will be used: cyproterone acetate or spironolactone. A therapeutic evaluation will be performed after 6 months of treatment [4].

4.2. Other methods for androgenetic alopecia

Vitamin D is complicatedly associated with different flagging pathways of development and separation of hair follicles. Most examinations show a backward connection between serum vitamin D levels and non-scarring alopecias, for example, telogen exhaust, androgenetic alopecia, alopecia areata, and trichotillomania. Lack of vitamin D is likewise connected with scarring alopecia. Be that as it may,

convincing examinations show the advantage of vitamin D organization in adjusting to going bald and it is missing to deal with these circumstances. Consequently, further examinations are required before vitamin D can be regularly suggested as a treatment methodology in these circumstances [5].

4.3. For scarring alopecia

Because of the uncommonness of cases, researchers and specialists use techniques for Transplantation and oral Minoxidil to treat scarring alopecia. Alopecia is a typical concern experienced in clinical practice. The treatment approach differs as indicated by the sort and seriousness of alopecia. Be that as it may, accessible treatment choices have restricted viability and a few unfavorable impacts. As of now, unique treatment choices are being contemplated to conquer these impediments. Moreover, cell pathways engaged with the pathophysiology of alopecia are further explained to target pathogenic particles possibly. What's in store looks extremely encouraging and new powerful medicines, for example, Janus kinase inhibitors could be accessible for alopecia areata. Undifferentiated cell innovation is progressing and organizations associated with hair follicle neogenesis are beginning clinical preliminaries on patients with androgenetic alopecia [6].

5. Conclusion

This paper introduces 2 types of lipsotrichia and pelada and some solutions. Through analyzing a lot of documentation, people can find androgenetic alopecia is the most common form of hair loss and also a normal physiologic variant. And it is prevalent in white men and women who are older than 70. Scarring alopecia is a rare disease that is characterized by permanent hair follicle destruction. Now people think the main reason for permanent hair loss is the absence of hair follicle stem cells. To treat the 2 types of hair loss, people can use Minoxidil based on doctors' advice. Minoxidil plays a crucial role in treating alopecia. In the future, doctors and scientists should focus on the treatment of scarring alopecia and create new methods, without side effects, to treat it.

This paper summarises and analyses a large amount of existing literature and extracts some useful information on prevention and treatment to help people protect their hair and thus their brain.

Besides, this paper did not do any experiments as well as clinical investigations, so the particular reactions of patients to the drug are not clear, such as allergies, nor is it clear how long the drug has been used in different people(men, women kids, seniors).

References

[1] Phillips TG, Slomiany WP, Allison R. Hair Loss: Common Causes and Treatment. Am Fam Physician. 2017 Sep 15;96(6):371-378. PMID: 28925637.

[2] Ohyama M. Primary cicatricial alopecia: recent advances in understanding and management. J Dermatol. 2012 Jan;39(1):18-26. doi: 10.1111/j.1346-8138.2011.01416.x. Epub 2011 Nov 21. PMID: 22097924.

[3] Mounsey AL, Reed SW. Diagnosing and treating hair loss. Am Fam Physician. 2009 Aug 15;80(4):356-62. PMID: 19678603.

[4] del Marmol V, Jouanique C. L'alopécie androgénétique [Androgenetic alopecia]. Rev Med Brux. 2004 Sep;25(4):A277-81. French. PMID: 15516056.

[5] Saini K, Mysore V. Role of vitamin D in hair loss: A short review. J Cosmet Dermatol. 2021 Nov;20(11):3407-3414. doi: 10.1111/jocd.14421. Epub 2021 Sep 22. PMID: 34553483.

[6] Falto-Aizpurua L, Choudhary S, Tosti A. Emerging treatments in alopecia. Expert Opin Emerg Drugs. 2014 Dec;19(4):545-56. doi: 10.1517/14728214.2014.974550. Epub 2014 Oct 21. Erratum in: Expert Opin Emerg Drugs. 2015 Jun;20(2):347. PMID: 25330928.