

# Hair and Scalp Diseases: Diagnosis and Treatment

Pietro Gentile\*

Department of Surgical Science, Plastic and Reconstructive Surgery, Tor Vergata University, 00133 Rome, Italy

## Introduction

Hair and scalp issues are frequent. Sadly, there are numerous ambiguities regarding the most efficient approaches to management and treatment for these disorders. To identify important ambiguities in the management, prevention, diagnosis and treatment of hair loss for patients as well as medical professionals. In order to identify the most significant unanswered questions regarding hair loss, a Hair Loss Priority Setting Partnership was established with healthcare professionals, patients, caregivers and family members. To ensure a process that was fair, inclusive and open, we followed the James Lind Alliance's method. 912 participants submitted 2747 treatment uncertainties in total; after excluding alopecia areata, 884 uncertainties pertaining to hair loss were examined [1]. Following a structured format, questions were combined into "indicative uncertainties." We present the top 10 research priorities for hair loss (excluding alopecia areata) to guide researchers and funding bodies in supporting studies that are important to both patients and clinicians. This list was further narrowed down through a series of ranking exercises and the top 25 were taken to a final prioritization workshop, where the top 10 priorities were agreed upon.

## Description

Androgenetic alopecia (AGA) is the most well-known type of balding in men influencing practically half of the male populace. AGA refers to the effects of androgens like testosterone and its derivative, dihydrotestosterone (DHT), which cause genetically susceptible individuals to experience hair loss. Testosterone is a substance that diffuses across the cell membrane and is a lipophilic compound. The cytoplasmic enzyme 5-reductase converts testosterone to its more active form, DHT. There are two different kinds of 5-reductase: Type 1 is found in sweat glands, keratinocytes, fibroblasts, sebocytes and skin. Type 2 is found in the inner root sheath of hair follicles and in the skin. DHT regulates gene expression by binding to the nuclear androgen receptor. The essential pathophysiological component of this condition is that abnormal androgen signaling disrupts epithelial progenitor cell activation and TA cell proliferation, resulting in the continuous miniaturization of sensitive terminal hair follicles and their transformation into vellus hair follicles [2]. Albeit the specific qualities associated with balding are not obviously known, a portion of the proposed qualities liable for hair development are desmoglein, activin, epidermal development factor (EGF), fibroblast development factor (FGF), lymphoid-enhancer factor-1 (LEF-1) and sonic hedgehog.

Topical minoxidil, finasteride (for men only) and surgical hair transplantation are currently the most common treatments for AGA. Sadly, not all patients with AGA benefit from the current treatments. Medical treatments are limited by patient adherence and require continuous use; careful choices (hair transfers)

**\*Address for Correspondence:** Pietro Gentile, Department of Surgical Science, Plastic and Reconstructive Surgery, Tor Vergata University, 00133 Rome, Italy; E-mail: gentile.pie@yahoo.it

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are restricted by cost, every patient's stock of benefactor hair and conceivable scarring in giver locales. Because of a requirement for additional viable treatments, LLLT has arisen as another restorative way to deal with treat AGA. The Hairmax Lasercomb® received 510 K clearance in 2007 and 2011 from the US Food and Drug Administration (FDA) as a safe treatment for male and female AGA. A recent review on the use of lasers and light therapies to treat alopecia covered fractional photothermolysis, UV phototherapy and 308 nm excimer laser, but not LLLT mediated by red laser, which is the main topic of this review [3].

The production of emocomponents suitable for cell therapy and those intended for topical or infiltrative use must be distinguished from one another. The second, where the effect is extrinsic and an amplification of the physiological function at the site of insertion, is much simpler, with the product easily derived by simple physical means. However, it is important to include it in the legislation while not limiting its use. The first requires special handling procedures and product derivation details. Every rule serves the same purpose: to guarantee the quality and safety of transfusion medicine procedures and products. The Legislative Decree of 9 November 2007 n. 208, "Implementation of Directive 2005/62/EC relating to a quality system of blood," represented the European regulations regarding the use of PRP. The Decree of 9 November 2007 n. 207 was titled Implementation of Decree 2005/61/EC in means of traceability of blood components intended for transfusion and the notification of adverse and severe reactions [4,5].

## Conclusion

In primary care, patients frequently experience hair loss, which can be extremely upsetting. Family doctors are well-suited to identify AA, provide patients with advice and begin treatment. In the second part of this review, treatment options are discussed.

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## Conflict of Interest

The authors declare that there is no conflict of interest associated with this manuscript.

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