Survey the simultaneous effects of two substances of butyric acid and glutamine peptide on hair loss in men *in vivo*

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Abstract

Hair loss is one of the common problems between women and men that affect mental conditions, which will result in more healthcare costs, and also affects more than half of the world's population. In hair loss, proteins that connect hair to scalp may be defective or reduced. *Transglutaminases* are a group of enzymes present in the scalp, whose activity is effective in naturally occurring structural proteins in the scalp and reducing hair loss. *Butyric acid* is a substance naturally separated from *parsnip* and the *glutamine* peptide is also a type of peptide rich in *L-glutamine* amino acid. In this study, the effect of *butyric acid* and *glutamine peptide* simultaneously on male hair loss was studied. A total of 30 men aged 18-60 years with no history of taking *finasteride* and *minoxidil*, as well as *nicotine*, were studied. The subjects were randomly divided into two groups of 15, and the first group received daily solution containing *butyric acid* and 3% *glutamine peptide* for 3 months, and under the same conditions, the second group received the placebo as control group. One week after the last use of the solution, the number of scalp hair that was in the Telogen phase was measured by digital epiluminescence microscopy machine. The results show that the number of hair in the Telogen phase in the first group decreased by 30% compared to the second group. Hair that is not in the Telogenous phase has stronger binding proteins and therefore more firmness. *Butyric acid* and *glutamine peptides* may have an antagonistic effect on the *transglutaminase* enzymes and thus, increase the strength of the hair in the scalp.

Keywords— *Butyric acid, Glutamine peptides, Hair loss, Transglutaminase*

Professional Biography

Naser-aldin Lashgari is Pharm.D student currently residing in Islamic Azad University of Tehran Pharmaceutical Sciences Branch, conducting in vivo experiments and novel researches in the cosmetic fields under the supervision of pr. Hamid Reza Ahmadi Ashtiani. Naser-aldin Lashgari currently has a single published article in the dermocosmoceutics field.



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