

## Oral Squamous Cell Carcinoma in Moroccan Population: A Cartographic Study

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Acute Telogen Effluvium (aTE) is triggered when a physiologic stress causes a large number of hair in the growing phase of the hair cycle (anagen) to abruptly enter the resting phase (telogen). The duration interruption of the anagen hair growth varies from 1 to 6 months (3 months average time), although this interruption of growth is not noticed by the patient. When hair re-enter the anagen phase, hair in the telogen phase are extruded from the follicle and hair shedding is noticed by the subject. Common triggering events causing aTE are acute febrile illness, severe infection, major surgery, severe trauma, postpartum hormonal changes, hypothyroidism, discontinuing oestrogen-containing medication, crash dieting, low protein intake, malnutrition, heavy metal ingestion, iron/zinc deficiency, and seasonal variation (July to October). However, clear evidence in supporting such events is lacking. The exact prevalence of aTE is not known, but it is considered to be quite common. aTE can occur in either sex, though women have a greater tendency to experience this condition because of postpartum hormonal changes. Because of the slow growth rate of the nail plate (3 mm/month for fingernails and 1.5 mm/month for toenails) and the difficulty of getting the drug active to penetrate the nail tissues, it is usually necessary to wait several months before seeing the efficacy of treatments. This delay often leads to discontinuation of therapy by the patients. BNS is also associated with the presence of depressive disorders, indicating a possible impact on the quality of life of those who experience them, similarly to what occurs with hair loss perception. In this study, we tested the efficacy on both aTE and BNS of Lcystine (Traced L-Cystine, BCF Life Sciences, Boisel, 56140 Pleucadeuc, France) associated or not to a commercially available hydrolysate of natural keratin (Kera-Diet, BCF® Life Sciences), obtained from a nonhuman source (feathers).

This monocentric, randomised, parallel group, double-blind, placebo-controlled study was carried out in accordance with the Declaration of Helsinki. Shining and healthy hair and nails is the attribute of healthy people looking after themselves and taking good care of their body, but for women, such properties are also a decoration, which gives them sense of wellbeing. It is nowadays clear that the nutrients of diet have a direct impact on the structure and growth of both hair and nails. While hair follicles are among the most metabolically active in the body, and hair growth may be impacted by calorie and protein malnutrition as well as micronutrient deficiency, the links are complex. Effects on hair growth, including acute telogen effluvium, are a well-known effect of sudden weight loss or decreased protein intake. It has also been reported potential associations between nutritional deficiency and chronic telogen effluvium, androgenetic alopecia, female pattern hair loss, and alopecia areata. In recent years, use of food supplements has increased both in Europe and in the USA with many physicians recommending them. A survey of health professionals conducted in 2008 showed that 66% of dermatologists (n=300) recommended dietary supplements to patients in relation to skin, hair, and nail health and 79% of clinicians personally used supplements. A search of the keywords "hair loss" within the Vitamins and Dietary Supplements section of an important digital market place, which sells supplements via Internet sales, yields 923 products, many of them being different formulations. While such products contain a variety of nutrients, the review of the medical literature finds a notable lack of evidence supporting their use. In fact, even if some studies are arising in the scientific literature confirming the efficacy of food supplements, some of them used not reliable or standardised methods, and the study design sometimes does not consider the placebo group.

In this study, we investigated the efficacy of two ingredients to be used in food supplements containing, L-Cystine and hydrolysate of natural keratin, minerals, and vitamins. In order to reach this goal, a placebo-controlled, double-blind study was carried out in women showing the clinical signs of aTE and BNS. Our results show clearly that, after 45 days of supplementation, these criteria are significantly enhanced with these ingredients compared to placebo. Results demonstrate also that the observed effects are always better at 90 days in comparison to the 45 days results, underlining the importance of treatment duration. The self-assessment questionnaire shows that the improvement, instrumentally measured and clinically evaluated, is visible enough to be perceived by women; answers to self-assessment questionnaire by enrolled subjects after 90 days are very positive, especially for the KDL group, which underline benefits for the customers with this association. This illustrates that it is possible to visually enhance hair and nail health and status, even among healthy and well-nourished people.

In conclusion, this study provides evidence in supporting the hypothesis that L-Cystine or a combination of a hydrolysate of natural keratin (Kera-Diet®) and L-Cystine could represent a safe and effective approach in reducing hair loss during acute telogen effluvium and in improving brittle nail conditions. Specifically, we have shown that a 90-days intervention period with the test products is beneficial for telogen hair decrease and for increasing nail growth rate. Therefore and more generally, this study demonstrates that L-Cystine alone or a mix KeraDiet®+L-Cystine, associated with traced elements and specific vitamins at the right dosage can enhance hair and nail conditions, even though human nutrition is more and more balanced.