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The effects of micro-grafts in the treatment of androgenetic alopecia

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Androgenetic alopecia (AGA) is a hereditary androgen-dependent, progressive thinning of scalp hair affecting 60–70% of the adult population worldwide [1]. In AGA, hair is lost in a well-defined pattern, beginning above both temples. Over time, hairline recedes to form a characteristic "M" shape. Pharmacological treatment offers moderate results and hair transplantation represents the only permanent treatment option [2]. Here we describe a clinical approach, based on autologous micro-grafts, called Rigenera® that is able to restore hair loss using a promising CE-certified medical device called Rigeneracons. Its efficacy was demonstrated in the wound care including the management of chronic or non-healing wounds and for hard tissues and cartilage regeneration [3]. A preliminary in vivo study on three patients reported that autologous micro-grafts obtained by Rigenera® protocol promote hair growth even two months after the surgical procedure. The aim of this study was to demonstrate long-term efficacy of Rigenera® protocol in the treatment of AGA performing histological evaluations on scalps after 6 and 9 months from micro-grafts application with respect to controls. Morphological evaluations were performed by Haematoxylin/Eosin and Mallory Trichrome staining on 4-mm punch of scalps from volunteers patients. Results showed that, after 6 months of micro-grafts application, the number of hair follicles in the scalp is increased with a beginning of cuticle formation and dermal papilla in proliferation. After 9 months, we reported a well-organized derma, more regular and structured collagen fibres, and hair follicles in Anagen IV/Mesanagen phase. In summary, micro-grafts application improve hair restoration with a positive patient's subjective assessment.

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References

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Key words

Androgenetic alopecia, autologous micro-grafts, morphological evaluations, hair restoration.