



HAIR DISORDERS

MICROBIAL SHIFT IN SCALP DISORDERS: A NEW CHALLENGE FOR PLATELET-RICH-PLASMA

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Background: The role of Platelet-rich plasma (PRP) for treatment of hair growth disorders has been widely investigated. Also biomimetic peptides can be successfully used, with similar in vitro and in vivo efficacy to autologous PRP.

Beyond the well-known hair regrowth activity, the antimicrobial effect of PRP has been recently pointed out.

Bacteria play a crucial role in human diseases including also those specifically related to skin and scalp. Indeed, more recently, authors highlighted the presence of a significant microbial shift both in non-scarring (Androgenetic alopecia and Alopecia areata) and scarring Alopecias.

Objective: In the present work, we reported the antimicrobial efficacy of the above topical PRP-like treatment in a randomized double-blinded, placebo and active-controlled, parallel group study on 50 Alopecia areata (AA) patients.

Materials & Methods: AA enrolled subjects were previously screened for scalp microbial shift and randomly divided into treated (Group I) and placebo (Group II) group. Both groups applied the product twice a week (15 ml) for 3 months. Hair regrowth (SALT score) and microbiome composition (qRT-PCR and 16s sequencing) were investigated at T0 (baseline), T1 (3 months) and T2 (1 month follow-up).

Results: Group I showed a significant ($p < 0.001$) clinical improvement in SALT score at T1 which is also retained after 1 month of follow-up. Interestingly, a significant reduction of the microbial shift was reported both at T1 and T2 compared to baseline. No effects were observed in Group II.

Conclusions: Increasing evidence suggested the role of the microbiome in scalp disorder as no longer negligible. Our clinical investigations add evidence to the knowledge of the antimicrobial effect of PRP behind is well-known hair-growth efficacy. By modulating both hair re-growth and microbial shift occurring on the scalp of patients affected by AA, topical





PRP-like formulation can represent a useful innovative approach in the treatment of scalp disorders.

