

**Abstract N°: 349****Microneedling combined with drugs and stem cells for treating androgenetic alopecia.**Ettore Minutilli¹¹Catholic University of Sacred Heart, Surgical Sciences, Roma, Italy**Introduction & Objectives:**

Oral finasteride and topical minoxidil represent the only two US FDA approved medications for androgenetic alopecia (AGA) with real efficacy and acceptable side effects. Microneedling used as a drug delivery system has demonstrated excellent cosmetic results, especially in combination with minoxidil for mild-moderate AGA. Stem cell-based therapy has no standardized protocol yet and its application combined with microneedling should be evaluated.

Materials & Methods:

This topic describes the best protocol for microneedling combined with drugs in AGA management suggesting its possible combination with hair follicle stem cells (HFSC) micrografts implantation.

Results:

Microneedling achieves good cosmetic results with a dermaroller to enhance minoxidil delivery through the microchannels on the bald scalp. The frequency of the sessions is generally every 2-4 weeks for at least 3-6 months to increase significantly hair thickening and density with negligible side effects. Actually, stem cell therapy is based on the injections of HFSC (extracted from punch biopsies of the occipital areas through microdissection) on the bald scalp with variable results, but cultured HFSC (organoids) transplant needs to be further investigated in more robust clinical trials.

Conclusion:

Microneedling combined with topical minoxidil remains a valid alternative for treating mild-moderate AGA and new drugs are being proved for transdermal delivery. In the future, the transplant of HFSC micrografts post-microneedling could become the best choice, in combination with old and new drugs delivery to improve the development of mature well oriented hairs. Finally, a possible association with conventional therapies could be necessary for personalized treatment strategies in severe AGA management.

