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The utility of stem cells in *Alopecia areata*: A five year experience

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Background: *Alopecia areata* (AA) is a common condition causing non-scarring hair loss, yet its pathogenesis is still unclear. Treatment of AA is a difficult challenge. The discovery of epithelial stem cells in the bulge region of the outer root sheath of hair follicles in mice and man has encouraged researchers to utilize the hair follicle as a therapeutic source of stem cells for regenerative medicine.

Objective: The objective of the study is to evaluate the use of follicular stem cells in the treatment of AA.

Patients & Methods: Fifteen patients with AA of the scalp were included in a randomized controlled double blinded clinical trial. Isolation of hair follicle stem cells was done by enzymatic digestion of the bulge areas. Cell tagging using iron oxide particles was performed in order to elucidate the exact fate of the injected cells as a way for *in vivo* cell tracking. Sham saline injections have been done at control sites on the scalp of the treated patients.

Results: Excellent response was achieved in three patients (20%), good response was achieved in seven patients (47%), while five patients (33%) showed poor response at the end of nine months evaluation. None of the placebo injected sites in all included patients showed any response.

Limitations: Sample size is relatively small. Long-term follow up is mandatory.

Conclusion: It can be concluded that, local follicular stem cell therapy could be a feasible, efficient and safe therapeutic option for *Alopecia areata*.

Biography

Marwa Mohamed Fawzy has completed her PhD from Cairo University and Postdoctoral studies from Cairo University School of Medicine. She is a Professor of Dermatology, Cairo University (since April 2016). She has got International Board Certificate in Dermatopathology (December 2010) passing successfully the 8th International Board Certifying Examination in Dermatopathology. She has published more than 30 papers in reputed journals and has been serving as an Editorial Board Member of repute.

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