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Orthopaedics-2021: TREATMENT OF STABLE VITILIGO USING BOTH CULTURED AND NON-CULTURED AUTOLOGOUS MELANOCYTES FROM HAIR FOLLICLE ORS CELL SUSPENSION

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Introduction: Treatment of stable vitiligo is mainly surgical. A plethora of methods are being studied and modified, however none of them guarantee 100% cure up till now. Arguments existed about the safety, efficacy and convenience of cultured melanocytes as compared to non-cultured technique. In 2012, Savkovic and Co-workers developed an improved culture method amplifying human melanocytes from the hair follicles; however, they did not apply this method clinically for treating vitiligo patients.

Aim: To assess the efficacy and safety of a modified autologous cultured hair follicle outer root sheath cell suspension transplantation in the treatment of stable vitiligo lesions, and to compare it with the results of transplantation of autologous non-cultured hair follicle cell suspension within the same patient.

Patients & Methods: Hair samples were epilated from 24 patients with stable vitiligo (each sample 60-80 anagen hairs), hair follicle ORS was separated by two methods, cultured [we modified the culture method of Savkovic et al. (2012)] and non-cultured methods. Melanocytes characteristics in both methods were determined via measuring cellular melanin content by ELISA and the fold change in pre-melanosome (Pmel-17) gene expression. Patients' response was evaluated clinically for up to one year following treatment.

Results: Out of 24 patients, 19 patients completed the study, with a total of 40 lesions treated, 21 with cultured and 19 with non-cultured melanocyte cell suspension and continued the follow-up period. Eight (20%) lesions showed excellent response (2 (25%) of them with non-cultured and 6 (75%) with cultured), 10 (25%) good (3 (30%)of them with non- cultured & 7 (70%) with cultured), 7 (17.5%) fair (3 (43%) of them with non-cultured and 4 (57%) with cultured), and 15(37.5%) showed poor response (11(73%) of them with non-cultured and 4 (27%) with cultured). Melanin content and melanocyte viability were more with the modified cultured technique.

Conclusion: Our provided modified autologous hair follicle ORS melanocytes cultured cell suspension transplantation method is a promising option for treating stable vitiligo lesions, however it is more expensive and time consuming than the non-cultured method. A plethora of interventions had been introduced for treating stable vitiligo lesions, however none could guarantee 100% cure. Arguments existed about the safety, efficacy and convenience of cultured melanocytes as compared to non-cultured technique. In 2012, Savkovic and Co-workers developed an improved culture method amplifying human melanocytes from the hair follicles; however, they did not apply this method clinically for treating vitiligo patients. We assessed the efficacy and safety of modified autologous cultured hair follicle outer root sheath cell suspension transplantation in the treatment of stable vitiligo lesions, in comparison to autologous non-cultured hair follicle cell suspension transplantation within the same patient. The modified cultured method seems to be promising although more expensive and more time consuming than the non-cultured technique..

Biography-

Shereen Mahmoud Kamel Shawky currently working as a Professor of Clinical and Chemical Pathology, Cairo University, and as a Head of transfusion medicine department in Al Kasr Al Ainy Hospitals. After obtaining the MBBCH 1990: degree of excellence and grade of honor residency in Al Kasr Al Ainy hospital from 1992-1995, she earned a thesis of master's degree in immunology entailing expression and distribution of MHC class II antigens on normal and malignant cells, and a Master's Degree in Clinical Pathology in November 1994, as well as an MD thesis entailing heterogeneity of T cell receptor variable β region in rheumatoid arthritis (1998). Later on, she earned her MD degree in medical immunology (1998).