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Restoration of pigmentation by hot incubated autologous non cultured keratinocyte melanocyte transplant in patients of stable and refractory focal Vitiligo

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Vitiligo affects about 2% of the world population and cause psychological distress, low self-esteem and suicidal tendencies. Despite the availability of various medical treatments, a large percentage fails to achieve satisfactory results. In such cases surgical treatment may help restore pigmentation. In recent years, cellular transplantation such as the non-cultured melanocyte-keratinocyte suspension has gained popularity because of minimal technical complexity, superior aesthetic results and requirement of only a small donor area. Very few studies regarding the effectiveness of this technique exist in the literature. We hereby report our experience with this technique.

Objectives: To determine the efficacy of transplantation of autologous non-cultured keratinocytes melanocytes in stable vitiligo and to obtain a successful uniform repigmentation and observe for side effects; if any.

Materials and methods: Ten patients with stable vitiligo were included and duration of our study was 6 months. Superficial split thickness skin grafts taken from donor site, transferred to 0.25% trypsin-EDTA, incubated for 40 minutes at 37°C followed by dermal epidermal separation in a medium of autologous plasma, then centrifuged and applied to a dermabraded depigmented skin area and collagen dressing placed. The patients were observed over every 15 days, for following 6 months and the photographs were taken. We maintained the patient on NBUVB, along with topical corticosteroids on and off for the 6 months following surgery.

Results: Onset of pigmentation observed earliest at 3 weeks post-operatively; however, in few, it was delayed up to 6 weeks. Homogenous repigmentation achieved after 6 months was uniform and matches well with surrounding skin.

Discussion: The hot incubated autologous non cultured keratinocyte melanocyte transplant technique is simple, yet effective cell based therapy in refractory cases of stable vitiligo; the main advantage being that larger areas can be treated with a small donor site in a comparatively short period of time.