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Contour Defects of Face with Hyperpigmentation

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Abstract : Background: Facial contour deformities associated with pigmentary changes are of major concern for plastic surgeons, both being important and difficult in treating such issues. No definite ideal treatment option is available to simultaneously address both the contour defect as well as related pigmentation. Objectives: The aim of the current study is to compare the long-term effects of conventional adipose tissue grafting and ex-vivo expanded Mesenchymal Stem Cells enriched adipose tissue grafting for the treatment of contour deformities with pigmentary changes on the face. Material and Methods: In this study, eighty (80) patients with contour deformities of the face with hyperpigmentation were recruited after informed consent. Two techniques i.e., conventional fat grafting (C-FG) and fat grafts enriched with expanded adipose stem cells (FG-ASCs), were used to address the pigmentation. Both techniques were explained to patients, and enrolled patients were divided into two groups i.e., C-FG and FG-ASCS, per patients' choice and satisfaction. Patients of the FG-ASCs group were treated with fat grafts enriched with expanded adipose stem cells, while patients of the C-FGs group were treated with conventional fat grafting. Patients were followed for 12 months, and improvement in face pigmentation was assessed clinically as well as measured objectively. Patient satisfaction was also documented as highly satisfied, satisfied, and unsatisfied. Results: Mean age of patients was 24.42(±4.49), and 66 patients were females. The forehead was involved in 61.20% of cases, the cheek in 21.20% of cases, the chin in 11.20% of cases, and the nose in 6.20% of cases. In the GF-ASCs group, the integrated color density (ICD) was decreased (1.08×10^{6} $\pm4.64\times10^{5}$) as compared to the C-FG group ($2.80\times10^{5}\pm1.69\times10^{5}$). Patients treated with fat grafts enriched with expanded adipose stem cells were significantly more satisfied as compared to patients treated with conventional fat grafting only. Conclusion: Mesenchymal stem cell-enriched autologous fat grafting is a preferred option for improving the contour deformities related to increased pigmentation of face skin.

Keywords : hyperpigmentation, color density, enriched adipose tissue graft, fat grafting, contour deformities, Image J
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