

Adult Mesenchymal stem cell implantation for one step face rejeuvation

Type: Case Report

Topic: Regenerative Medicine, Stem Cells

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Purpose:

Face Rejeuvation continues to be a significant challenge for aesthetic surgeons. Regenerative Medicine, and particularly autologous stem cell therapy has become one of the main "one step treatment" choices. Adult mesenchymal stem cells (MSCs) are mainly isolated from bone marrow or fat tissue. We discuss the use of adult adipose tissue-derived stromal cells (ADSCs) for a total face rejeuvation in conjunction with a fat graft using an improved technique (MyStem TM) for isolating adult viable mesenchymal stem cells from a lipoaspirate within less than 10 minutes.

Methods and Materials:

In local anesthesia, we extract, with a specifically created adipose tissue biopsy needle, the stromal tissue from adult adipose tissue of the abdomen. The vacuum syringe with the few ml of liposuction is, bedside in the OR room, connected to the MyStem device, where the infuse content is mechanically filtered. The stromal-vascular fraction of cells is separated from the mature lipid-laden adipocytes and the liquid cell-free component by a patented microfluidic cell collection system. This fraction contains ADSCs in a large number, with yields of approximately 250,000 cells per gram of tissue. This fraction is then injected alone or in combination with a fat graft.

Results:

We have prospectively followed the patient treated by ADSCs implantation with or without the use of fat graft. All patients, treated by the same surgeon, have followed the same post-op regimen. Patients have, at short term follow-ups, showed improvements in skin texture and wrinkle depth and no adverse reaction has been noted.

Conclusions:

This procedure is simple, quick and low cost. It doesn't require harvesting of cells and its associated donor site morbidity. The adipose tissue lipoaspirate procedure is simple and low-risk by the use of specific blunt-tipped biopsy needle. Immediate separation in the OR of the adipose cells, without the need of collagenase lysis, makes the procedure easy and safe and perfectly adapting to the timing of a single procedure.

After 30 days



After 30 days



After 30 days

