

PRODUCTS OF BIOLOGICAL LABORATORY IN SURGICAL PRACTICE: FROM LIPOFILLING TO BIOIMPLANTING

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Introduction: Decreasing the volume of transplanted fat tissue is the biggest disadvantage of lipofilling procedure. There are many methods of fat transplanting but none of them can guarantee predictable volume of fat tissue revival.

Methods: 120 women underwent lipo transplantation procedure in last seven years. First group-the procedure was done by S Coleman method of fat tissue preparing. Second group-fat transplantation was done using Body Jet system of fat filtration. Third group-the fat received after liposuction was processed in biological laboratory, where was centrifuged several times, washed with special solutions and, finally, added a platelet rich plasma in proportion to quantity of received fat transplant. The fat transplantation procedures were performed in different areas-face remodeling and rejuvenation, breast augmentation, buttock augmentation, atrophic and inverted scars under filling, breast reconstruction, intraorbital for correction of eye prosthesis position. The special questionnaire list was developed to estimate patient satisfaction about achieved result. The series of MRI were done to detect cysts, granulomas and others fat transplant complications.

Results: The highest level of satisfaction was achieved in third group of patients. There was a very low incident of cyst and granuloma formation on MRI study.

Conclusions: The revival of transplanted fat tissue at recipient area depends on several factors, the first of them is the speed of neovascularizing-formation of new vessels and ingrowing them into transplanted fat tissue. Any tissue detritus, liquid fat, infiltration solution makes the process of neovasculogenesis difficult and retarded. Refinement of aspirated fat from this debris by special technology in laboratory conditions, addition the platelet rich plasma solution-potent stimulator of neovasculogenesis makes transplanted fat revival better with lower rate of complications. Clinically achieved result after procedure is more stable and satisfactory for patient. Changing the aspirated fat going threw in laboratory; combining with concentrated growing factors from plasma gives the opportunity to call received substance not the simple fat transplant but "bioimplant".

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