BEAULI™--a new and easy method for large-volume fat grafts

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Abstract

After numerous experiments with free-fat transfer since 1893, many promising methods and results of large-volume fat grafts have been published recently. A common disadvantage was the time of the procedure and a lack of proof of efficiency. In 2007 we developed the BEAULI™ method (Berlin autologous lipotransplantation), a new and reliable procedure to collect larger amounts of transplantable fatty tissue. It was evaluated in a prospective clinical study with 85 patients in 2 centres in Germany, the overall number of transplantations amounting to 216 treated breasts. Indications were general lack of breast volume, either genuine or acquired in the course of surgical procedures. The fat was harvested with the BEAULI™ method, which consists in general of the harvest of very small fat particles by means of water-assisted liposuction (Bodyjet®, Humanmed Ag, Germany) and reinjection of the fat after separation from superfluous water by means of the Lipocollector®. All procedures were performed in a standardised pattern, measurements were taken preoperatively, at day 1 postop, after 1 week, 4 weeks, 3 months, 6 months and then to be continued yearly. An MRI of the breasts was taken preop and 6 months postoperatively, the longest follow-up is 30 months. Average operation time was 1.5 h. In every case a definite increase of volume of the fatty layer in the treated areas was observed. We saw no macroscopic oily cysts, in two cases there were 3 months after the operation some palpable subcutaneous nodules which proved to be granulomas. The volume control of 35 aesthetic patients by means of BrainLab™ Software and MRI could verify a permanent take rate of 76±11% of the grafted fat. In aesthetic patients generally 2 (80%) fat-grafting procedures with an average gain in volume of ½ bra cup size or 100-150 ml) per procedure were required. After implant removal, satisfaction was usually reached after only a single procedure, for complete reconstruction after cancer surgery 4-5 grafting sessions were necessary. An extension of the skin envelope as well as improvement of existing scars were observed.