

Autologous Fat Transplantation for Labia Majora Reconstruction

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Abstract A case of autologous fat transplantation for labia majora augmentation after ablative surgery is presented. The patient reported pain and deformity of the left labium majus after resection for Bowen's disease. The symptoms had not been solved by classic plastic surgical reconstructions including a pudendal thigh fasciocutaneous flap. Use of autologous fat transplantation facilitated an improved aesthetic result while preserving residual sensation to the external genitalia and improving symptoms of mucosal exposure and dryness.

Keywords Bowen · Fat transplantation · Labia majora · Reconstruction · Vagina

Whereas reports and procedures concerning labia minora reduction are common [1], reports describing labia majora augmentation remain sparse. We describe a case of correction for a resultant oncologic and failed reconstructive deformity to the labia majora using autologous fat transfer. The patient was treated initially for Bowen's disease with an extended tumor resection (Fig. 1). Reconstruction using a Singapore flap (pudendal thigh fasciocutaneous flap) was performed [2], which was unsuccessful due to partial skin necrosis, but parts of the fat survived.

The patient required an additional local skin flap for coverage (Fig. 2), which provided improved contour, although the patient was not entirely satisfied. She reported that after tumor resection, her left labium majus was

extensively reduced in volume and that her clitoris was painfully exposed, forcing her to avoid bicycling and even wearing underwear. Because local flaps had served to give skin restoration to the deformity, autologous fat transplantation to soften the scars related to the flap reconstruction was an ideal option to improve the fullness of the labia majora.

Surgery

A standard tumescent technique using a modified Klein solution was applied. Liposuction of the hips, trochanteric regions, and abdomen was performed at low-pressure settings. The aspirated fat was separated using the Tissu-Trans system (Asclepios Medizintechnik, Gutach, Germany), as described by Shippert.

The initial surgery consisted of small incisions directed apically and laterally to the natural vulva crease. Subcutaneously, 17 ml of fat was injected to the left (deficient labium) and 13 ml to the right labium majus using multiple small layered passes to achieve improved symmetry, medialization of the retracted labia, and mild overcorrection (Fig. 3). A second procedure 4 months after the initial surgery injected 35 ml of fat to the left and 5 ml to the right labium majora. This injection was performed using a specialized injection tool (Celbrush; Cytori Therapeutics Inc., San Diego, CA, USA). The incision was closed with a single stitch.

Results

A moderate amount of self-limited swelling was noted during the first 2 postoperative weeks after each procedure.

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Fig. 1 Retracted left introitus after extended tumor resection for Bowen's disease of the left labium majora



Fig. 2 Reconstruction using a Singapore flap (pudendal thigh fasciocutaneous flap) and an additional local skin flap because coverage had provided better but not sufficient volume due to scar tissue

No evidence of hematoma or infection was detected. Sutures were removed on postoperative day 10, and the recovery course was otherwise uneventful. The patient reported a marked reduction in her symptoms of irritation to both the clitoris and labia minora. Pain in her labia majora ceased, and normal sensation was preserved.

The patient reconsulted with our clinic 4 months postoperatively regarding a mild degree of volume loss and



Fig. 3 Via a small bilateral supra labial skin incision, fat was injected into the lateral parts of the labia majora parallel to the natural vulvar crease



Fig. 4 The patient reported resolution of her local pain and soreness 8 months after the second injection. Adequate volume augmentation was achieved, and the patient experienced no untoward effects

requested another fat injection procedure. As a result, 8 months after this second injection, she reported resolution of both her local pain and soreness. The clitoris was shielded, and the patient experienced no untoward effects (Fig. 4).

Discussion

It is interesting to note that whereas numerous publications address reconstructive options for deformities involving the labia minora, the management of deformities involving the labia majora are neglected or rarely described. In a paper by Felicio [2] in 2007, correction for hypertrophy of the labia majora was briefly mentioned. A technique for

reduction of extensive labia majora hypertrophy was similarly described by Mottura [3] in 2009.

The reconstruction of ablated or hypotrophic labia majora after tumor resection can be accomplished using a variety of local neurovascular flaps. Most common perhaps are the pudendal-thigh flap derivatives such as those first described by Wee and Joseph [1] in 1989 and used for vaginal reconstruction. Woods et al. [4] reported their experience using the Singapore flap for eight patients. Although no flap failure was noted in their series and the contour result was reportedly favorable, the authors did note problems with infection and dehiscence in some patients.

In the reported case, augmentation of the labia majora by autologous lipotransfer yielded an improved and more natural appearance of the vaginal and perineal areas while preserving normal sensitivity. No additional scars were created, which was particularly important for this patient, who had already failed local flap reconstructive efforts. It was interesting to note that both the patient and the team treating the patient noted an improvement in both the local skin and the preexisting scar quality after fat transfer. This qualitative improvement has been noted in other reports of fat transfer and deserves further investigation [5].

Our intention was to bring attention to a novel use for fat grafting. Our follow-up period was quite short. Thus, although the technique was used for a series of 880 fat transplantations to the breast, with the volume of the transplant reported to be stable 3–4 months after surgery [6], the reader must consider that a larger series with a long-term follow-up period is necessary to evaluate the presented method for labia majora reconstruction.

Summary

Autologous fat transplantation offers a minimally invasive option for additive volume restoration and aesthetic improvement after ablative labial surgery. This method appears to have some promise, particularly compared with traditional flap reconstructive surgery, which might not as easily or successfully accomplish similar results. The requisite liposuction was a pleasant side benefit for the patient.

Conflict of interest None.

References

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