Radiosurgery in plastic-reconstructive medicine

MAMILLA RECONSTRUCTION FOLLOWING A MAMMARY CARCINOMA WITH UPPER EYELID SKIN BY BLEPHAROPLASTY

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Due to a breast carcinoma on the right, a papilla reconstruction by arrow flap and areola reconstruction with upper eyelid skin transplantation and simultaneous upper lid plasty was performed and the tightening of the breast was conducted in one session, at a 54 years old female patient.

After removal of a mamma-ca in the right breast, the reconstruction of the papilla areola complex was performed by an arrow flap and volume buildup of the neopapilla with own fat from retroorbital (Fig. 1) was done. The eyelid skin gained from the blepharoplasty was used to reconstruct the Papilla Mammaria (Fig. 2).

Fig. 1: Preoperative

Fig. 2: Tissue resection / upper eyelid / blepharoplasty

After the breast-conserving therapy and previous surgery, the right breast was rebuilt, by an implant and following in context of an autologous conversion – thus an exchange operation with own fat (600 cm^3 live transplantation). Simultaneous a reduction tightening of the left breast was performed.

SURGICAL PROCEDURE

The excision of the skin surplus on both upper eyelids was carried out exclusively with the radiosurgical unit (Meyer-Haake radioSURG® 2200, settings CUT/COAG 28 watts / coagulation degree c4). The removed skin is neither discolored nor necrotic at all cut edges, and therefore, perfectly transplantable. Afterwards the resection of a muscle strip with scissors and opening of the septum orbital is carried out. With the setting 28 watts, coagulation degree c3, the bipolar resection of the retroorbital fatty tissue (central and medial) and the extraction of 2 cm^3 of vital fatty tissue for the papillary augmentation is made.

As common in our clinic, immediately after the excision of skin from the upper eylids, a thermal tightening is executed with radiosurgery and with the angled forceps a new upper lid fold is created. The setting on the device is 28 watts / coagulation degree c3. With the angled forceps and coagulation degree c3, bipolar hemastasis is performed leading to a minimal, but wanted tissue contraction. Intracutaneous stitches are done with monocryl thread 6 x 0. Patients who come from far away and for whom only a blepharoplasty is performed, the wound is sometimes only treated with the ethyl-2-cyanoacrylate wound adhesive EPIGLU®, which must be applied carefully and thinly. This has the advantage that a second appointment to remove sutures can be avoided since the ethyl-2-cyanoacrylat-tissue adhesive, after the formation of the horn lamellas, drops off by itself. Wound dehiscence or allergies are not known yet.

After treatment of the upper eyelid blepharoplasties, the left breast should be tightened and the mamilla position be adjusted equally. On each side, periareolar, a de-epithelization occurs in the area of the tightening zone (Fig. 3). The hemostasis is again achieved with the radioSURG®, setting 28 watts / coagulation degree c3. The wound is treated by intracutaneous sutures 4 x 0 vinyl and a thin layer of EPIGLU®.

Fig. 3: Tightening of the breast

RECONSTRUCTION OF THE MAMILLA

The position of the newly created mamilla of the right breast is planned while standing (Fig. 4). A de-epithelization is performed around the caudally pedunculated neurovascularized arrow flap. Hemostasis is as always done with radioSURG®, setting Bipolar Coag 28 watts. The mamilla formation of the skin flap occurs as a shell, which is positioned centrally. The thinned full skin grafts of the upper eyelids are transplanted around the reconstructed papilla (Fig. 5).

Fig. 4: Modeling the mamilla

Fig. 5: Transplantation of the gained skin flaps from the blepharoplasty

Fig. 6: Final result: top postoperative, below after 3 months

WOUND CARE WITH TISSUE ADHESIVE

A very thin layer of the liquid tissue adhesive EPIGLU® is applied on all stitches. After drying steri strips are applied. A tape cast is applied to both breasts. Due to the absolute infection- and waterproof wound care, the patient is allowed to shower at home immediately (Fig. 6).

WHY RADIOSURGERY?

In my clinic, the use of radiosurgery is "state of the art" for all procedures. I am always surprised that colleagues who are trained by me, never were informed about the many possibilities and excellent results of radiosurgery, neither during their university nor during the training of such devices in their own clinics.

Already with the first skin cut, the colleagues are surprised that an initial skin cut can be performed with radiosurgery. It is so relaxing to be able to follow any surgically or anatomically necessary cutting line without pressure and without shifting the tissue. A more detailed description of radiosurgery would go beyond the content of this article. Mentionable is the big difference between high-frequency surgery and radiosurgery, in radiosurgery the electric currents can penetrate the membrane of the cells, which is not the case with high frequency surgical electric currents. Accordingly, the results in radiosurgery are much better than in high-frequency surgery, which usually only ranges at output frequencies of 300 to 500 kHz, while in radiosurgery higher frequencies of at least 1 MHz are used.

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