Full Thickness Skin Transplantation in the Face*

A Case Report Describing Detailed Technique

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Summary. Full-thickness skin grafts to the face can take well and result in satisfying function and aesthetic appearance, if certain rules are followed, while planning and performing the transplantation. The observation of the natural aesthetic boundaries of the face, the selection of the donor sites for proper color match, the tension of the skin transplant and the amount of pressure for adaptation are discussed and described in a case report of a young girl with extensive burn scars of the face.

Key words: Skin transplantation – Burn – Facial reconstruction.

Case Report

In December 1966 a 6-year-old girl acted as an angel in a Christmas-play. Her wig caught fire in a candle flame and burned both cheeks, leading to extensive scarring on both sides of the face. In June 1976 we replaced the scar of the right cheek by a full thickness skin graft and in August 1977 the left cheek was treated similarly. Both skin transplants took completely, became smooth and pliable, matched in color and subserved facial animation well, affording a natural and pleasing appearance.

Method

When transplanting full thickness skin [1, 6] to the face, several rules have to be observed: the outline of the intended transplant, drawn around the scar to be replaced, should follow the natural aesthetic boundaries of the face, as for example the orbital rim and the naso-labial fold, – or even well healed skin grafts will look like a patchwork. The selection of the donor site is of great importance in respect of texture and color-match [3–5]. The area should be as close as possible to the face, but in the case of this young girl one

* The author dedicates the paper to Prof. Dr. Dr. Eduard Schmid, the founder of our Department of Plastic Surgery in Stuttgart, at its 30th anniversary 1979
also had to consider secondary disfigurement, which we largely avoided by taking the skin from below both axillae.

The outline of the recipient area is drawn on to a rubber sheet (Coferdam), so the skin can be cut exactly to pattern [2]. If the transplant is smaller or (still worse) larger than the recipient area, the alteration in tension will militate against a complete take, since the capillary network is collapsed by too much or too little tension.

Atraumatic suturing (we use 7/0-steel) is essential to prevent unsightly scarring around the skin transplant. Of great importance also is the amount of pressure to be applied for accurate adaptation of the transplanted skin at the recipient site. It should be sufficiently great to prevent haematoma, but low enough to allow recanalisation of existing, and the in-growth of new capillaries. This pressure is maintained for 8–10 days, using elastic self-adhering latex bandages (Coban by 3 M). In the oro-buccal region the transplant needs intra-oral support from a dental appliance, which simultaneously stretches the lips and cheek and the covering skin transplant during healing, preventing graft contraction.

In the first few months after transplantation the skin should not be exposed to ultraviolet radiation, which may cause excessive pigmentation. The surrounding scars may be rendered supple and flat by massage.

Discussion

The decision to replace the unsightly scars of the face in this young girl by full thickness skin grafts was not an easy one. It was discussed exhaustively with her and her parents, since an unsuccessful transplantation may have led to increased scarring. Also the selection of the donor site was difficult and decided only after full consultation with the girl. The success achieved was not only the result of careful observation of the rules enumerated above, but also of the stoical co-operation of the patient.

References


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