Preoperative Photos

Figure 1
Congenital nevus involves right cheek, right lower eyelid, portions of medial and lateral eyelids and nasal bridge

Figure 2

First Stage Full Thickness Skin Graft

Figure 3
Removal of nevus from lower eyelid and nasal region

Figure 4
FTSG (2.5 x 6 cm) to right eyelid defect harvested from left lower neck

Second Stage Cervicofacial Rotation Flap

Figure 5
Placement of rectangular tissue expander (100 ml) in subdermal pocket over entire right lower cheek and jowlline

Figure 6
2 months later removal of tissue expander with right cervicofacial advancement flap and FTSG to nasal bridge harvested from right supraclavicular fossa

4 Months Postoperative

Figure 7
Postop 3rd procedure with Z-Plasty revision of right lateral canthus. Satisfied patient wearing hair pulled back with full facial exposure. No residual nevus or ectropion.

Discussion

Approximately 1 in 100 infants is born with congenital melanocytic nevus (CMN); however incidence of giant congenital melanocytic nevi has been estimated at 1 in 20,000 live births. There have been numerous nomenclature regarding melanocytic nevi however Bittencourt et al. have appropriately defined “giant” as a congenital melanocytic nevi measuring 20 cm or greater in diameter in adults. The challenges in reconstruction are obtaining a balance of good surgical management and the long term evaluation of the functional and cosmetic outcomes. Also, a key consideration in reconstruction of facial deformities and defects is an adequate coverage with skin that matches the recipient site in color, texture, and volume.

The use of tissue expansion has been used and well documented in the reconstruction of head and neck defects. Initially described in literature as a modality for ear reconstruction, tissue expansion like other techniques in plastic surgery has evolved into a therapy for a number of clinical problems. Animal and human studies have consistently documented histological changes in soft tissue undergoing expansion. Mechanical force on skin influences numerous aspects of cellular architecture and function such as cytoskeleton structure, extracellular matrix, enzyme activity, second messenger systems, and ion channel activity. Tissue expansion has a firm foundation in secondary burn reconstruction in children and adults reducing the physical and emotional morbidity of such wounds.

The cervicofacial flap has been a well documented approach for check reconstruction since they provide a large amount of coverage with local tissue. Color match is readily achieved and avoids the mismatch of color and bulkiness free flaps provide. A negative aspect involves wider flap elevation and the use of tissue expanders and delay of reconstruction. This may impact patients’ psychosocial well being.

Through our exhaustive review of literature, the overall theme in reconstruction of CMN involves a multistage approach respecting the principles of basic facial aesthetic, and achieving maximum results with skin texture, color and volume. Full cooperation and realistic expectations between the patient, family and surgeon is imperative in a successful outcome. The discussion of the risk of malignancy in giant CMN is beyond the scope of this poster but it should be taken into consideration when excising these lesions and their margins.

Conclusion

The large size of the congenital nevus which involved the periorbita, malar and nasal region had extensive involvement necessitating a multi-staged surgical strategy. In the presented case, a satisfactory functional and aesthetic result has been obtained with the use of tissue expander, skin grafts, and a cervicofacial rotational flap. Despite the complex and multistage treatment, we attempt to report another approach and add to the other vestiges of approaches documented.

Bibliography

2. Arneja J, Gosain A. Giant Melanocytic Nevi. PRS. Vol 124, Number 1S 1e-13e. 2009.

Introduction

We report a 23 y/o Armenian female who came to the USA as a medical relief case for evaluation of a grotesque (8.5 x 6 cm) congenital nevus involving the right face (cheek, eyelids, nose). (Figures 1, 2).

She was an outcast in her farm town social caste system, wearing her hair long with bangs as a camouflage mask wrapped around her face. She underwent a 2 stage procedure involving: tissue expander placement in a subdermal pocket over the right lower jaw, in anticipation of a cervicofacial flap (Figure 5), and full thickness skin graft (FTSG) harvested from the right neck into the right lower eyelid defect (Figures 3,4).

Two months after the first stage reconstruction of FTSG to right lower eyelid and tissue expander placement (100 ml), a cervicofacial flap was completed with another FTSG harvested from the supraclavicular fossa to close the remaining nasal bridge defect. (Figures 6,7)

The patient underwent a third minor surgical revision of a canthal scar (Figures 8,9) and returned home 4 months later to Armenia.

Operation – Surgical Technique

First Stage: Full Thickness Skin Graft to Lower Eyelid/Placement of Tissue Expander

• This is a difficult area for reconstruction due to effects of wound contracture and ectropion.
• A 2.5 x 6 cm lenticular shaped full thickness skin graft (FTSG) was excised from the left supraclavicular region and closed with the use of 4-0 vicryl and 5-0 monoryl.
• After meticulous defatting, the FTSG was placed into the lower lid defect. Tissue expansion was accomplished with a rectangular shaped expander of 100 ml potential. Entry point was made with a postauricular transverse incision with the final placement of the expander in the right lower posterior neck area and filled with 20 cc of saline.

Interim

• Patient seen weekly in a one month time frame for saline injections into the tissue expander. A total of 108 ml was placed.

Second Stage: Cervicofacial Rotation Flap/Full Thickness Skin Graft to Nasal Dorsum

• After 2 months from the initial procedure, the remainder of the congenital nevus mass was removed.
• Markings were made by drawing out the incision around the congenital nevus forming a horseshoe pattern around the right eye and extending over the nasal dorsum.
• A preauricular incision was done in the style of a rhytidectomy around the lobule extending posterior to the auricle and distal limb extending inferior down the hairline.
• Resection of the nevus was accomplished and a 2 mm margin of normal skin was taken to minimize recurrence.
• After removal of the tissue expander, a cervicofacial rotation flap was pulled in a superior fashion to close the defect with the use of anchoring suture at key locations and buried interrupted 4-0 vicryl suture.
• Key area to address is the excess skin over the lateral canthus of the eye.
• A small amount of skin was taken in order for the skin edges from the cervicofacial flap to close properly and avoid distortion of the eye and maintain function.
• Nasal dorsal aesthetic subunit was reconstructed with a FTSG harvested from the right supraclavicular region.