

Same Day Repair Using Fish Skin Graft (FSG) Applications Post Mohs Surgery for Facial Carcinomas

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Introduction

Mohs Micrographic Surgery is employed to remove cutaneous carcinomas, primarily from the face. Mohs Surgery techniques ensures complete removal of contiguous skin cancers while preserving maximal normal tissue. It is a tumor tracking, tissue sparing procedure. Often the resultant defect requires repairs that may involve large tissue transfers or significant full or partial thickness skin grafts to achieve wound closure and adequate healing. In this case series of facial surgical defects, novel intact fish skin grafts (FSG) from the skin of the white fish of the north Icelandic Sea were employed to achieve optimal functional and cosmetic results.

Methods

Each patient presented to the Mohs Surgery team with a biopsy proven non melanotic skin cancer (NMSC) located on the face. Mohs surgery technique was used to remove the skin cancers. The tissue is removed from the patient and taken to the adjacent lab. The tissue is frozen, cut in 6-micron sections, placed on glass slides, stained and then reviewed under microscopy by the Mohs surgeon. Examination of the margin ensures complete removal of the skin cancer. Repair options, to include healing by secondary intent, closure with a graft or flap and skin substitute application are discussed with the patient. Prior to placement of the FSG, all excess bleeding was controlled with electrofulguration. The FSG was templated to the defect and then cut to fit the exact dimensions. The FSG was soaked in normal saline for 2-3 minutes and then applied to the wound bed. It was held in place with fenestrated opsite and covered with a nonadherent bandage until the one-week follow up.

Results and Discussion

The cosmetic and functional results of FSGs were exceptional. The patients achieved excellent cosmetic results without additional scars from repairs with flaps and grafts. The FSGs allowed innate healing with minimal scarring. Secondary applications did not require aggressive anesthetized debridement. All patients reported that they were extremely pleased with the process and the results. Patients appreciated the "Band-Aids that are made from fish, melt into the wound and heal the defect."

CASE 1: Large Defect and No Extra Skin

Patient History: 84 yo Male with multiple NMSCs treated with Mohs and Surgical repair to include a BCC repaired with an O to L Advancement flap

Wound History: Basal cell carcinoma status post 2 stages of Mohs Surgery

FSG Applications: Single application with overlying prolene sutures

Patient Outcomes: Excellent cosmetic and functional results



6/28/2024 Final surgical defect after 2 stages of Mohs Micrographic Surgery



6/28/2024 Kerecis Marigen applied and sutured in place



7/3/2024 One Week Follow-up



11/4/2024 Healed. Patient extremely satisfied

CASE 2: The Graft prevented the Flap

Patient History: 56 yo Female large basal cell carcinoma that was ignored by the patient for over 5 years

Wound History: Neglected Carcinoma after 3 stages of Mohs Surgery

FSG Applications: Single application

Patient Outcomes: Kerecis precluded a large flap with excellent results



11/8/2024 Large defect after 3 stages of Mohs Micrographic Surgery



11/8/2024 Kerecis Marigen applied and secured with steri strips



12/04/2024 One Month follow-up



3/3/2025 Final follow-up. Patient extremely satisfied with cosmetic results

CASE 3: Even the Upper Lip can be Grafted

Patient History: 70 yo female with a nodular basal cell carcinoma on her upper cutaneous lip

Wound History: Status Post 2 stages of Mohs Surgery

FSG Applications: Two Kerecis Shield grafts placed one week apart

Patient Outcomes: Kerecis prevented a large flap and preserved the vermilion border



6/5/2024 Defect of the mucosal Lip after 2 stages of Mohs Micrographic Surgery



6/12/2024 Second application of Kerecis Shield at one week post op



6/26/2024 Three weeks post surgery with excellent healing



7/1/2025 One year post procedure with minimal scar and excellent cosmesis of the vermilion border

References

Prickett, K. (2025). Mohs Micrographic Surgery. In StatPearls. StatPearls Publishing.