The Healing Power of Nature

Fish skin graft* for the management of full-thickness scalp defect with bone exposure after failed closure of scalp defect with rotational flap

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INTRODUCTION

The treatment of scalp defects after tumor resection remains a challenge. Closure of defects with loss of soft tissue down to the bone require complex reconstructive options. Surgeons regularly use proven techniques including local and distal scalp flaps, tissue expanders, and staged procedures using dermal substitutes and skin graft. We report a case of a 76-year-old man with large tissue loss and bone exposure after wide local excision of squamous cell carcinoma of the posterior scalp originally closed with an adjacent tissue transfer. We describe the uncommon use of a series of a novel biologic, Fish skin graft (FSG)* for the management of full-thickness scalp defect with bone exposure after failed closure of scalp defect with rotational flap.

METHODS

Seventy-six-year-old male with posterior scalp squamous cell carcinoma requiring wide local excision closed with adjacent tissue transfer complicated by flap/graft failure and wound dehiscence and partial necrosis one month after surgery. Due to anesthetic intolerance his wife declined further surgical intervention suggested by the plastic surgeon and he was referred for wound care managemasent. Sharp excisional debridement of the devitalized tissue at presentation revealed a large defect to the posterior scalp including the bone. The bone appeared viable. After maximizing the wound base with advanced wound care products including enzymatic debridement combined with sharp debridement the patient underwent serial applications of FSG.

*Kerecis™, Kerecis, Isafjordur, Iceland

CASE:

Patient History: 76 M with history of Squamous Cell Carcinoma

Wound History: Full-thickness scalp defect after failed closure with rotational flap

Kerecis Applications: 2 application of fish skin graft

Patient Outcomes: Healed in two months

06/21/22 Prior to Debridement

06/21/22 After debridement

07/19/22 First FSG Application

08/11/22 Nine days after second graft application

8/17/22 Silver nitrate applied

8/30/22 One week after closure

RESULTS

The patient received serial sharp and enzymatic debridement and two applications of FSG separated by a two week period of time. This achieved rapid durable closure of the wound including coverage of the exposed bone with minimal scarring with-in 2 months of presentation and did not require additional anesthesia as requested by patient and family.

CONCLUSIONS

FSG is a novel biologic skin substitute to assist in closure of complex wounds in the operating room and out. There is evidence which is further confirmed by this case study showing that Fish skin graft is an additional tool in closure of complex wounds after tumor excision even with exposed bone.

References

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