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Extended Abstract

Complex scalp defects

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Abstract

Defects of the scalp may result from trauma, tumor resection, infections, congenital lesions and radiation treatment. Large and complex defects extending to bone can represent a significant challenge to the reconstructive head and neck surgeon. We here present our experience in the treatment of complex scalp defects. Material & Methods: We conducted a retrospective study of patients treated for complex defects of the scalp in the Department of Maxillo-Facial and Plastic Surgery in Sahloul Hospital (Sousse-Tunisia). Data studied were: Epidemiological (age, sex), etiologies, characteristics of the defect, surgical procedures and outcomes. Results: A total of 6 male patients have undergone reconstruction for defects in the anterior scalp subunits (forehead=1, fronto-temporal=3, parietal=1, parieto-temporal=1). The average age of patients was 53 years (min 25 years and max 81 years). The scalp defects resulted either from: tumor resection (2 patients); post-traumatic loss of the scalp (3 patients) and; electric burn (1 patient). As a surgical reconstruction; galea-aponeurotic flaps and split-thickness skin grafting were done in 2 cases, a temporal muscular flap was performed in 1 case and a latissimus dorsi free flap was performed in 2 cases. Conclusion: Scalp reconstruction represents a challenge, as the reconstructive surgeon should strive for a cosmetically appealing result as well as for durable coverage to the exposed cranium. Although local flaps have been described for the reconstruction of these defects, free flaps are the preferred choice when a significant area of soft tissue coverage is required or when the defect concerns the bone.

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The objective was to trial the use of the Integra skin regeneration system intraorally to promote healing of an intraoral defect in osteoradionecrosis (ORN), thereby avoiding the necessity for mucosal flaps, free flaps, or skin grafts. A 54-year-old male patient presented with a pathological mandibular fracture at the angle, related to previous radiotherapy for tonsillar carcinoma, after the development of ORN. The fracture site was debrided

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and fixed with a reconstruction plate and the intraoral defect was dressed with the Integra two-layer system and an overlying pack. Three weeks later, the pack and silicone layer of the regeneration system were removed, showing early granulation over the previously exposed bone. At 8 weeks postoperative, the defect had healed completely with no need for further reconstruction. Using the method described, excellent healing was seen with the Integra skin regeneration system. A new use for the Integra skin regeneration system has been identified in the authors' unit. This method is minimally invasive and resulted in good healing in the case presented. The need for further reconstruction with associated increased patient morbidity was avoided in this case.

Nasal alar defects lead to facial disfigurement, and nasal ala reconstruction is an important treatment option. The vascularized composite auricular flap based on the superficial temporal artery is an ideal option for a full-thickness nasal alar defect. However, the pedicle length and the discrepancy in artery diameter between the recipient vessel and flap pedicle continue to be major problems for free auricular composite tissue transfer. Considering that the angular artery is occasionally absent and the course of the infraorbital segment of the facial vein is constant, there are often no suitable vessels around the recipient site for anastomoses to the short pedicle of the flap. In the absence of a suitable recipient artery, an infraorbital segment of the facial vein measuring 2.5 cm in length was taken as a graft for the anastomosis of the superficial temporal artery and superior labial artery. End-to-end anastomosis was performed easily. The flap was inset to reconstruct the contralateral ala. The facial vein graft for anastomosis of the superficial temporal artery and branch of the facial artery is a reliable and easy method to resolve the problem of a short pedicle and large artery discrepancy for nasal ala reconstruction with a vascularized composite helical rim flap.