Occlusal and Dental Outcomes Following Facial Allotransplantation

Presenter: Demetrius M. Coombs, MD

Co-Authors: Fatma Betul Tuncer, MD; Bahar Bassiri Gharb, MD, PhD; Risal Djohan, MD; Brian Gastman, MD; Steven Bernard, MD; Mark F. Hendrickson, MD; Graham S. Schwarz, MD; Raffi Gurunluoglu, MD, PhD; Maria Siemionow, MD, PhD; Francis A. Papay, MD; Antonio Rampazzo, MD, PhD

Affiliation: The Cleveland Clinic, Cleveland, OH

INTRODUCTION AND OBJECTIVES: Most of the literature surrounding face transplantation focuses on immunology, function, and psychology. Dental and orthognathic outcomes remain persistently underreported. This study sought to review the worldwide face transplant experience and, for the first time, evaluate dental, orthognathic, and skeletal outcomes.

MATERIALS AND METHODS: All composite allografts containing maxilla and/or mandible with alveolus were examined, and dental and orthognathic complications were recorded. Clinical photographs, radiographs, and/or computerized tomography scans from the literature were analyzed using Angle’s classification, cephalometrics, and facial profile angles. The most recent orthognathic outcomes of our 3 facial transplant patients are also presented.

RESULTS: The worldwide experience consists of 45 face transplantations; 25 patients received allografts containing maxilla or mandible, and 16 (64%) involved double jaw. All documented patients had ≥1 dental/occlusal complication: temporomandibular joint ankylosis (9/25, 36%), dental caries and extractions (32%), palatal fistula (28%), Angle class II malocclusion (24%), class III (12%), open bite (20%), maxillary rotation (8%), skeletal nonunion (8%), and hardware infection (4%); 28% of patients underwent revision surgeries involving LeFort I, III, or mandibular osteotomies. Imaging conducive to Angle, cephalometrics, or facial profile angle analysis was available in 100% (7) of reported maxilla and 63% (10) of double jaw transplants. The majority of maxilla-only transplants had insufficient teeth, whereas soft tissue profile was most commonly class II. Double jaws were equally Angle class I, II, or III, but mostly class I or class III with regard to facial angle profile. All of our patients have received maxilla and/or mandible, and all have required dental extractions. Angle classification, cephalometrics, and facial profile angles vary across our patients, whereas class III soft tissue facial profile seems to predominate.

CONCLUSION: Dental and orthognathic complications remain extremely common but underreported after facial allotransplantation involving either single or double jaw composites. In fact, every documented face transplant has ≥1 occlusal or skeletal defect. The risk of malocclusion increases with simultaneous transplantation of maxilla and mandible and often necessitates revision surgery in this unique population. Craniofacial principles and advanced surgical planning should be utilized to achieve facial balance. Additionally, we must standardize the way in which face transplant patients are presented in the literature.

Impact of Oral β-Blockers on Surgical Treatment of Infantile Hemangioma

Presenter: Laielly Abbas, MD

Co-Authors: Melina Kim Sakamoto, MD; Dov Charles Goldenberg, MD, PhD; Patricia Yuko Hiraki, MD, PhD; Rolf Gemperli, MD, PhD

Affiliation: Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo, São Paulo, Brazil

INTRODUCTION: Infantile hemangioma is the most common benign neoplasm of infancy. Treatment varies according to size, location, local complications, and evolutive stage. Surgical treatment in the active phases was considered one of the main options. Since 2009, the use of β-blockers for treatment of patients with infantile hemangioma was scientifically supported. Simultaneously with the favorable results obtained, doubts about the impact on surgical indication arose. To date, there are limited data discussing these changes in surgical practice. Therefore, this study intends to answer important questions from plastic surgeons all over the world regarding the surgical management of infantile hemangiomas:

- Has the number of procedures reduced?
- Have the surgeries been delayed?
- Have the procedures been less complex?

PURPOSE STATEMENT: Compare management of patients with infantile hemangioma before and after the introduction of β-blockers and assess whether pharmacologic therapy changed surgical treatment in terms of number of cases operated, magnitude of the procedure, and timing of surgery.

MATERIALS AND METHODS: A retrospective cohort study was accomplished, including 278 patients with infantile hemangioma followed between 1998 and 2016. Patients with active (noninvolved) infantile hemangioma without urgent indication of treatment and with lesions in relevant anatomical...
sites (around eyelids, nose, mouth), with cosmetic deformities, local complications, and partially obstructed orifices were evaluated. A number of 136 patients met the inclusion criteria and were divided into 2 groups, treated before 2009 (n = 67, before the introduction of β-blockers) and after 2009 (n = 69, already including patients treated with propranolol).

RESULTS: In the first group (before 2009), surgery was the only treatment for 21 (31.3%) patients. From the remaining 46, surgery was combined with clinical treatment in 23 (corticosteroids, lasers), totaling 44 (65.7%) patients treated by surgery. Surgical rate per patient was 1.47, and surgery duration per patient was 112.4 minutes. In the second group (after 2009), surgery was the single treatment in only 2 patients (2.9%). From the remaining 67, surgery was combined with clinical treatment in 14, totaling 16 (23.2%) patients treated by surgery. Surgical rate per patient was 1.12, and surgery duration per patient was 71.9 minutes. There was a marked reduction of 64.7% on the number of patients who underwent surgery and a decrease of 23.8% on the number of surgeries per patient.

CONCLUSIONS: Overall, there was an impact on the total number of surgeries and its complexity, allowing a new perspective on the surgical and clinical management of infantile hemangiomas. β-Blockers are recommended for exclusive clinical treatment for infantile hemangioma given its clinical safety, low cost, and proven efficacy. It seems that the use of β-blocker can be the best pharmacologic choice and a neoadjuvant indication to reduce the lesion to facilitate resection and postpone surgery.

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Impact of Immediate Surgical Reconstruction Following Wide Local Excision of Malignant Melanoma

Presenter: Seung Ah Lee, MD

Co-Authors: Allison C. Hu, BA; Gregory R. D. Evans, MD

Affiliation: University of California, Irvine, Orange, CA

PURPOSE: The role of surgical reconstruction following melanoma extirpation is well recognized. Although technical considerations, such as reconstruction modality, are largely dependent on individual anatomy and surgeon preference, the optimal timing of surgical reconstruction remains unclear. Therefore, the purpose of this study was to evaluate clinical and oncologic outcomes in patients undergoing malignant melanoma extirpation followed by immediate surgical reconstruction.

METHODS: We retrospectively identified patients who underwent immediate surgical reconstruction following wide local excision of biopsy-proven malignant melanoma of the head and neck at our institution between January 2013 and December 2016. Patients were excluded if final pathology demonstrated nonmelanoma histology or if reconstruction was not performed by plastic surgery. Patient demographic and clinical characteristics, operative variables, and relevant outcome data were collected from patient records. Descriptive statistics were summarized and chi-square tests were used for bivariate analysis in SPSS.

RESULTS: In the duration of this study, 197 patients (139 males, 70.6%) underwent wide local excision followed by immediate surgical reconstruction. The mean age of patients at the time of surgery was 67.3 years (range, 16–95 years). Of the 70 patients with a history of cutaneous malignancy, 46 (65.7%) had a prior melanoma and 26 (37.1%) patients had 22 types of skin cancers, including melanoma and nonmelanoma histology. Of the 202 lesions that were resected, 138 (68.3%) were invasive (T1–T4) and 64 (31.7%) were clinically determined to be melanoma in situ (Tis) following initial biopsy. The most frequent anatomic location involved was the cheek (69, 34.2%), followed by the scalp (63, 31.2%), ear (19, 9.4%), nose (16, 7.9%), temple (16, 7.9%), and forehead (14, 6.9%). Surgical reconstruction technique varied considerably in this cohort, with 34 (15.2%) lesions repaired by complex primary closure, 132 (58.9%) by adjacent tissue transfer, 39 (17.4%) by full thickness skin graft, and 19 (8.5%) by split thickness skin graft. On postoperative pathologic assessment, 21 (10.7%) lesions were upstaged and 2 (0.9%) were found to have positive margins. The mean follow-up time following surgical reconstruction was 2.3 years (SD, 1.4 years). Overall, 5 patients experienced local recurrence during the follow-up period, with a mean time to recurrence of 7.6 months (range, 1.8–13.0 months). In an unadjusted bivariate analysis, history of melanoma (P = 0.015) was significantly associated with local recurrence following resection.

CONCLUSION: Surgical reconstruction at the time of wide local excision is a safe and oncologically sound approach for the surgical management of patients with malignant melanoma. A prior history of melanoma may be associated with recurrence.