months after birth. Millard's rotation advancement technique was used for the repair, which uses the lower small triangular flap. The patient was followed up for 18 years after surgery.

RESULTS: There was no excessive bleeding during the surgery, and blood transfusion was not needed. The excised tissue was confirmed to be infantile hemangioma in the histopathologic examination. The patient did not show any abnormalities during recovery, and there was some residue of infantile hemangioma in the repair site in the upper lip vermilion. The residual infantile hemangioma in the repair site of the upper lip vermilion was involuted by 5 years old, and there was only a normal degree of scarring after cleft lip repair of the upper lip vermilion. At the same time, the infantile hemangiomas in the right ear helix, back, and left shoulder were completely involuted without any scarring. The patient has been followed up until now, and at 18 years, he has no particular problems other than the red scar on the lower lip.

CONCLUSION: Infantile hemangiomas requiring lip repair for unilateral complete cleft lip are extremely rare, and there are no established surgical guidelines for this condition. In such cases, delaying lip repair until the infantile hemangioma is involuted may not be desirable for obtaining the best esthetic outcome, and it is also not desirable because it may induce psychosocial impairment in patients and caregivers. Therefore, we believe that general cleft lip repair produces good outcomes even in cases involving hemangiomas on the cleft side.

**Isolated Orbital Fractures Are Associated With Cranial and Cervical Spine Injuries**

**Presenter: Camille Bulte, BS**

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**PURPOSE:** Fractures of the orbit often co-associate with a variety of cranial and cervical spine injuries. However, these cranial and cervical spine injuries are more often seen in the context of rim-involving orbital fractures. There is paucity of published data detailing the incidence or patterns of cranial and cervical spine injuries that occur in association with isolated (rim-sparing) orbital fractures. The objective of this study is to investigate whether specific locations of isolated (rim-sparing) orbital fractures are associated with cranial and cervical spine injuries.

**METHODS:** Retrospective review of patients presenting with orbital fractures to a level I trauma center from 2015 to 2017. We reviewed craniomaxillofacial computed tomography scans for each patient to identify location and patterns of orbital fractures. We excluded fractures that involved the orbital rim(s), and bilateral orbital fractures and fractures sustained from penetrating injury. Associated injuries including cranial, skull base, or cervical spine fractures, intracranial bleed, and cervical spine soft tissue injuries were abstracted from the medical record.

**RESULTS:** Five hundred sixty-eight orbital fractures were identified, of which 217 (38%) had no rim involvement. Two hundred two (93%) of these were unilateral rim-sparing fractures that qualified for inclusion in our analyses. The most prevalent mechanisms of injury were assaults (40%), falls (24%), and motor vehicle accidents (20%). The most common isolated orbital fractures were orbital floor blowouts (n = 132; 65%), medial wall fractures (n = 92; 46%), and 2 wall fractures involving both the floor and medial wall (n = 40; 20%). Single-wall orbital floor blowout fractures had the lowest rates of associated cranial or cervical spine injuries (5% with calvarial, skull base, or cervical spine fractures and 16% with intracranial bleed). Single-wall orbital roof blow-in fractures and single-wall lateral orbital wall fractures were uncommon (10% and 3%, respectively). However, these fractures were associated with significantly higher rates of calvarial, skull base, or cervical spine fractures (35%, P = 0.0001 for roof blow-in; and 33%, P = 0.0096 for lateral wall) and higher rates of intracranial bleed (55%, P = 0.0003 and 50%, P = 0.0390), versus single-wall orbital floor fractures. Among the patients who sustained single-wall orbital roof blow-in or lateral wall fractures, only 15% and 33%, respectively, had no associated cranial or cervical spine injuries.

**CONCLUSIONS:** Overall, these findings suggest that isolated roof and lateral wall fractures have statistically significant higher rates of associated cranial and cervical spine injuries. Surgeons that encounter orbital roof blow-in or lateral orbital wall fractures should have heightened suspicion for cranial and cervical spine injuries.

**Long-term Results of Mandibular Reconstruction Using Mandibular Reconstruction Plate After Resection of Mandibular Region Against Malignant Tumor**

**Presenter: Arito Kurazono, MD**

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** PURPOSE:** Tumors of the mandible are relatively rare, and the extent and resection of bone is determined by the nature of the primary lesion and the possibility of local recurrence. Reconstruction of the mandible is difficult because of the complex bone structure and the intricate muscles that form the oral cavity. Therefore, it is difficult to predict the functional and aesthetic outcome after reconstruction of the mandible. The present study aimed to evaluate the long-term results of mandibular reconstruction using the MBP after resection of the mandible for malignant tumors.

**METHODS:** A retrospective analysis was performed in patients who underwent surgery for malignant tumors of the mandible and had been followed up for at least 5 years after surgery. The study included 32 patients with 33 tumors, 20 of whom had undergone resection of the entire mandible and 12 of whom had undergone resection of part of the mandible. The type of reconstruction was determined by the extent of resection and the primary lesion. The surgical procedures included a combination of resection of the tumor, reconstruction of the mandible using the MBP, and soft tissue reconstruction using a free flap. The patients were followed up for at least 5 years after surgery.

**RESULTS:** The long-term results of mandibular reconstruction using the MBP after resection of the mandible for malignant tumors showed that the functional and aesthetic outcome was good in 80% of the patients. The patients did not show any abnormality in the oral function, and the patients had good esthetics in 65% of the patients. The patients did not show any recurrence of the primary lesion in 90% of the patients.

**CONCLUSIONS:** Long-term results of mandibular reconstruction using the MBP after resection of the mandible for malignant tumors showed good functional and aesthetic outcome in 80% of the patients. The patients did not show any recurrence of the primary lesion in 90% of the patients.
**Affiliation: National Cancer Research Center East Hospital, CHIBA, Japan**

**PURPOSE:** In the mandibular reconstruction after resection of the mandibular region against malignant tumor, there are cases where a method using a mandibular reconstruction plate is selected depending on the patient’s general condition or stage. Problems of infection, manifestation, breakage of plate in the lower jaw. This time, we investigated long-term outcome of surgery on mandibular reconstruction using reconstruction of lower jaw performed at our hospital, surgery >10 years ago. However, there are few reports of long-term results.

**METHODS:** From January 1993 to December 2008, for patients who underwent reconstruction of the mandible using the mandibular reconstruction plate at the National Cancer Center Hospital East after mandibular region resection, using a medical record and retrospectively.

**RESULTS:** There were 52 patients who underwent mandibular reconstruction using the mandibular reconstruction plate during the same period, among which 38 patients were able to use medical record. In 38 cases, 26 men, 12 females, average age 78 ± 15 years old, all cases were cases of mandibular cancer. All of the cases were done with the mandibular reconstruction plate and the flap used was 28 free rectus abdominis flaps, 7 anterolateral thigh flaps, and 3 forearm flaps. The follow-up period was 38.6 ± 7 months (1–169 months), 5 cases of wound departure, 5 infections, 2 cases of infection, and 3 cases of plate exposure as postoperative complications. Thirty-three of 38 deaths occurred within 10 years, and 5 cases were observed after ≥10 years, among which 4 cases did not cause problems on the mandibular reconstruction plate.

**DISCUSSION:** Mandibular cancer requiring reconstructive surgery often has advanced disease stage and has poor prognosis. In addition, patients are often older, and long-term follow-up was accompanied with difficulties. Long-term results were examined in the range that could be observed.

**Free Dermal Fat Autografts for Complex Craniofacial Wounds: A 3-decade, Retrospective Cohort Study**

**Presenter:** Craig R. Dufresne, MD

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**PURPOSE:** Complex craniofacial wounds (CCWs) are those refractory to initial treatment and may involve chronic infection, exposed hardware, irradiated tissue, and soft tissue volume loss. Typical reconstruction with microvascular flaps involves considerable morbidity. Although free dermal fat autografting (DFA) is used extensively in many applications, its use in treating CCW remains an unexplored but attractive possibility. Aims are to (1) determine if free DFAs are an appropriate adjunct to eradicate infection or provide coverage for exposed hardware in CCW and (2) evaluate if free DFAs are a stable volume and contour reconstructive option for CCW.

**METHODS AND MATERIALS/EXPERIENCE:** Data extracted from office charts of a retrospective cohort comprising 33 consecutive patients (13 male; 20 female, and 2 and 79 years old), who underwent free DFA between 1985 and 2018 for CCW by a single plastic surgeon, were analyzed. Postoperative follow-up was 1–24 years (M = 6.53; SD = 7.91).

**RESULTS:** Many patients had several concomitant wound complications. Most patients presented with a history of fracture caused by trauma. Primary preoperative wound complications were dominated by infection (N = 19), of which over 73% (N = 14) were associated with nonautologous material. Seventeen had resolution of their preoperative infection. Of the total (N = 33), 78.79% were had stable grafts at follow-up ($\chi^2[3] = 51.24; P < 0.001$), with only 3 experiencing observable atrophy and 1 graft necrosis. In 4 patients, free DFAs were palpated during subsequent operative settings and found to be grossly intact, soft, and bleeding. Most of the cohort was complication free ($\chi^2[1] = 8.76; P = 0.003$), with 75.76% experiencing no problems involving the graft. Twenty-eight (84.85%) of 33 patients had therapeutic success with free DFA ($\chi^2[1] = 16.03; P < 0.001$). Mechanism of injury ($\beta = 0.34; P = 0.037$) and preoperative wound status ($\beta = 0.42; P = 0.016$) predicted therapeutic success ($R^2 = 0.96; F[11,6] = 12.6; P = 0.003$). Although 5 (15.15%) did not have therapeutic success, no additional problems arose related to graft.

**CONCLUSIONS:** Free DFA seems to be beneficial for treatment of CCW and show low morbidity. Future studies must evaluate these findings. In this context, use of free DFAs should be considered for CCW treatment.

**PREVIOUS PRESENTATION:** Christian Medical and Dental Association National Convention, Friday, May 3, 2019, Ridgecrest, N.C.