swallowing outcomes in Caucasian people. However, to date, little is known regarding the influential factors in Asian people. In the current report, we retrospectively analyze postoperative functional outcome of patients in one institution in Japan and statistically assessed influential factors for swallowing outcome.

**PATIENTS AND METHODS:** From January of 2007 to October of 2017, 83 cases that underwent FJ transfer for hypopharyngeal reconstruction in Nagoya University hospital are included in the study. The patients were 58 males and 25 females, with a mean age at the operation of 66.2 years. Indication for the operation included 67 hypopharyngeal cancers, 10 laryngeal cancers and 6 esophageal stenoses due to irradiation or operative scar formation. Pre/postoperative chemoradiotherapy, operative technique as well as postoperative complication are listed for possible influential factors associated with postoperative outcomes. Swallowing functions were extracted from medical records. Statistical analysis was performed utilizing (SAS 9.4, SAS Institute, United States), and univariate regression analysis as well as multivariate regression analysis were performed. P value under 0.05 was considered as statistically significant.

**RESULTS:** FJ flap failure resulted from venous thrombosis in one patient and was rescued with staged pectoralis major flap transfer. 3 months post-operatively, 55.6 % of patients could tolerate normal diet. This rate was 66.1 % at 6 months and 76.9 % at 12 months after the operation. Anastomotic stapler was found to be a risk factor for dysphagia at 3 and 6 months postoperatively, but was not a risk factor at 12 months. Neither preoperative nor postoperative radiotherapy was found to be risks for dysphagia.

**DISCUSSION:** Swallowing outcome is a result of a complex relationship of multiple factors such as age, pre/postoperative chemoradiotherapy, surgical intervention and rehabilitation. In this study, the anastomotic stapler was found to be a risk factor for dysphagia in the early postoperative phase; however, this relationship disappeared at one year. Balloon dilation procedure or rehabilitation might have improved the outcome during the course. These analysis may help to improve operative procedure to achieve best postoperative functional outcome.

**Antitumorigenic Effect of Deferoxamine on Human Head and Neck Cancer Cell Proliferation**

**Presenter: Alexis Donneys, MS, MD**

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**PURPOSE:** The ability of deferoxamine (DFO) to mitigate the deleterious effects of radiation on bone regeneration in the craniofacial skeleton is well documented in the scientific literature. However, there remains concern about the tumorigenic potential of DFO when administered to head and neck cancer (HNC) patients. The purpose of this study is to investigate the effects of DFO on MDA-1986 head and neck squamous carcinoma (HNSC) cell proliferation in the absence and presence of radiotherapy (XRT).

**METHODS:** MDA-1986 cells were exposed to increasing doses of DFO (0, 25, 50 uM) and XRT (0, 5, 10 Gy) in triplicate and counted via hemocytometer to delineate the dose-dependent effects of each therapy. An MTS assay was then performed to comparatively analyze the following groups: control, XRT, DFO, and XRT+DFO. Statistical analysis was performed using ANOVA.

**RESULTS:** Cell counts significantly decreased with increasing doses of XRT. Interestingly, DFO also displayed a significant dose-dependent potency to HNSC cells when analyzed via hemocytometer. For the MTS assay, a significant diminution of cell proliferation was observed in all treatment groups compared to control. The addition of DFO reduced cell proliferation to a significantly greater degree than XRT treatment alone, and the combination of XRT and DFO decreased cell proliferation even further.

**CONCLUSION:** Surprisingly, DFO exhibited an antitumorigenic effect more pronounced than the effects of radiotherapy. Our findings provide preliminary evidence that DFO may be safely utilized in select HNC patient populations in order to promote new bone formation during craniofacial reconstruction.
Growth Potential of Free Fibula FLAP for Mandibular Reconstruction in Pediatric Age

Presenter: Gerardo Chavez-Perez, MD

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Mandibular deformities may be secondary to congenital malformations, cancer or vascular malformations in childhood. There are several reconstructive options, the fibula free flap is the gold standard in children and adults nowadays.

Mandibular growth occurs through the epiphyseal proliferation found in the condyle and remodelation.

The fibula has endochondral growth through ossification centers, located proximally in the epiphysis, another medial, and distal.

The aim of this study is to report the long-term follow-up of patients with maxillary or mandibular reconstruction with free fibula flap in infancy.

MATERIAL AND METHODS: All patients treated at the Hospital General Dr Manuel Gea Gonzalez, with fibula flap in pediatric age between 1999 and 2014, were included. In the follow-up the length of the fibula and clinical and skeletal facial symmetry were determined through clinical photographs, panoramic x-rays and serial tomography.

RESULTS: Twenty patients were included, who were operated at an average age of 8.25 years old, with an average follow-up of 6 years, maximum 13, minimum of 2 years. The 70% of the patients had a diagnosis of hemifacial microsomia, 25% of cancer, 5% of facial fissure 3–11 associated with hemifacial microsomia, and 5% of mandibular arteriovenous malformation.

The total of the fibula flap were used for head and neck reconstruction. 10% for maxillary and 90% for mandibular reconstruction. In 25% of the cases the fibula length was smaller than the one that had been placed, reason why it is suspected resorption of the same one. In 75% of the cases, the fibula flap was equal to the fibula placed, however, in 95% of the patients, there was no growth evidence.

CONCLUSION: The free fibula flap is the best reconstructive option for maxillary and mandibular defects in children, however the flap has no growth potential per se. That is why secondary procedures such as distraction of the flap are necessary to obtain better symmetry and functional results.

Subunit Reconstruction of Mid-Facial Defects with Free Style Facial Perforator Flaps

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INTRODUCTION: Reconstruction of facial defects is not only important for cosmesis but also for the function. Local flaps are considered the best reconstruction method for facial defects. We want to show the feasibility of free style facial perforator flap for the reconstruction of moderate sized mid-facial defects.

METHODS: Free style facial artery and lateral nasal artery perforator flaps were performed in 22 patients (11 males and 11 females) who had removal of facial tumor between March 2015 and December 2016. Facial artery perforator flaps were used for the defects of nasal dorsum, nasolabial area, medial cheek and lower eyelid. Those flaps were advanced in V-Y fashion to close the defect. Lateral nasal artery perforator flaps were used for the defects of nasal sidewall and nasal wing. Those flaps were transferred to the defect with propeller movement.

RESULTS: The median age of patients was 62 years (range: 35–84 years). The mean follow-up period was 12.6 months (range: 5–24 months). Pathology results were basal cell carcinoma in thirteen patients, squamous cell carcinoma in six patients and other skin tumors in three patients. The defect size ranged from 2 x 2 to 5 x 5cm. No major or minor complication happened but one flap had venous congestion that healed without any intervention.