a decade. At our institution, plastic surgeons frequently assist spine surgeons with wound closures of index spine procedures. In anticipation of this becoming a more common practice nationwide, the authors sought to determine risk factors for wound complications in this setting.

METHODS: Spine surgeries closed by a single plastic surgeon at a large academic hospital were reviewed. Patients 18 years or younger, with invasiveness indices of zero, current wound infections, or undergoing surgery for management of complications from prior procedures were excluded. Factors significantly associated (p<0.05) with wound complications on univariate analysis were included in a regression model.

RESULTS: Seven hundred eight procedures were done. Twenty-one patients had any wound complication, including 2 superficial infections, 5 deep infections, 3 dehiscences, 4 seromas, and 7 hematomas. Patients undergoing cervical surgery were less likely to have a wound complication (OR 0.39, 0.14–0.99). Patients requiring intra-operative blood transfusion (OR 3.42, 1.29–9.08) and with ASA ≥3 (OR 4.68, 1.70–12.92) were more likely to have a wound complication. Surgical time was longer (266±141 versus 196±97 minutes, p=0.009) and estimated blood loss higher (1063±1032 versus 615±786 mL, p=0.021) among patients suffering wound complications. Invasiveness index was not associated with wound complications (0.711). In a multivariate logistic regression controlling for EBL, operative time, ASA status, and intra-operative transfusion, only ASA status of 3 or greater predicted complications (OR 3.42, 1.29–9.08) and ASA ≥3 (OR 4.68, 1.70–12.92) were more likely to have a wound complication. Surgical time was longer (266±141 versus 196±97 minutes, p=0.009) and estimated blood loss higher (1063±1032 versus 615±786 mL, p=0.021) among patients suffering wound complications. Invasiveness index was not associated with wound complications (0.711). In a multivariate logistic regression controlling for EBL, operative time, ASA status, and intra-operative transfusion, only ASA status of 3 or greater predicted complications (p=0.005). Cervical surgeries were associated with fewer wound complications on multivariate analysis (OR 0.29, 0.09–0.92).

CONCLUSIONS: Contrary to papers in the spine literature that have found operative duration, diabetes, hypertension, and age, among other risk factors, predictive of complications, we found that only ASA status of ≥3 was associated. This may reflect a lack of power, as the ASA classification aggregates comorbidities and BMI. Patients at increased risk for complications should be managed more aggressively, including prophylactic local muscle flap closure where appropriate.

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Predictors of Angiographic Hemostasis in Life-Threatening Oronasal Hemorrhage Following Facial Trauma

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INTRODUCTION: Severe oronasal bleeding after facial trauma is uncommon, with incidence reported as 1%, and yet could be life-threatening. Previous studies have been focused on prognostic factors among severe traumatic oronasal hemorrhage. This study aims to identify predictors of angiographic hemostasis in patients suffered from life-threatening traumatic oronasal hemorrhage.

MATERIALS AND METHODS: We retrospectively reviewed patients who experienced craniofacial trauma with life-threatening oronasal hemorrhage in our institute from January 2009 to December 2014. Patients who experienced posttraumatic oronasal hemorrhage and presented with hemodynamic instability, defined as tachycardia, hypotension, or required intubation to secure airway were enrolled. Patients who underwent angiography without embolization and patients who did not undergo conventional management before transarterial embolization (TAE) were excluded. Patients achieved hemostasis with TAE were compared with those achieved hemostasis by conventional management. Characteristics, risk factors, mortality and morbidities, including intensive care over 10 days, neurological deficit, secondary intervention, respiratory failure, or severe infection, were collected and analyzed systemically.

RESULTS: There were 4404 craniofacial trauma patients and 72 of them met the criteria of life-threatening traumatic oronasal hemorrhage. Thirty-seven patients were included in this study: eleven patients reached hemostasis with conventional management, while 26 patients required TAE to achieve hemostasis. Shock index (heart rate/systolic blood pressure) among patients required TAE to achieve hemostasis was statistically significant higher than patients reached hemostasis by conventional management.
hemostasis with conventional management (p=0.003). There was no sequelae or major complications after TAE. There were six patients died from traumatic brain injury. Non-TAE related morbidity and mortality have no significant difference between these two groups.

CONCLUSION: We demonstrated TAE could be an effective treatment for life-threatening oronasal bleeding among patients with severe craniofacial trauma. Initial presentation with shock index > 0.9 was a strong independent predictor of angiographic hemostasis and TAE should be initiated as soon as possible.

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Preoperative Computed Tomographic Angiography for Complicated Head and Neck Reconstructions

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INTRODUCTION: Reconstruction of complicated head and neck of after multiple operations and radiation therapies continue to be a challenge for plastic surgeons. It not only affects the anatomy due to considerable adhesions of fibrotic tissues, but also can lead to endothelial dysfunction, pronounced fibrosis and decreased vascularization pattern. We utilize the multi-detector computed tomography angiography (CTA) for preoperative evaluation to detect reliable vessels for anastomosis. Surgical options would be considered whether to abort, to proceed on using free flaps or altered local flaps for reconstruction.

METHODS: Based on retrospective review of our experiences for complicated of head and neck tumor resection from 2011 to 2015, the preoperative neck vessels were evaluated by CTA. The findings were divided into three groups: Group I, Present recipient vessels; Group II, Present recipient vessels with small or stenosis vessels; Group III, No recipient vessels.

The preoperative surgical planning was made according to the reports of CTA.

RESULTS: Total of 28 patients ranging from 42 to 74 years old (average, 58) and previous operation frequency from 1 to 8 (average, 2.2) were evaluated. In 23 patients, peri-operation radiotherapy was performed. In CTA reports, Group I, 7 patients have received free flap (free ALT flap: 5, free fibula flap: 2). All free flaps survive without partial loss. Group II, there are 6 free flaps (free forearm flap: 1, free ALT flap: 5), 5 local flaps (PMMC flap: 4, PMMC + DP flap: 1) and one without surgery. Group III, 5 patients received local flaps (PMMC flap: 2, DP flap: 1, PMMC + DP flap: 2) and four patients without surgery. A treatment algorithm was developed.

CONCLUSIONS: MDCT angiography provides high-resolution, three dimensional vascular imaging for preoperative surgical planning to evaluate reliable vessels for anastomoses. The use of CTA should be considered for difficult microsurgical reconstructions in head and neck. When an abnormality in vascular anatomy is detected by CTA, the surgeon is advised to consider altering the operative plan accordingly. In addition, CTA indeed increases the surgical confidences of preoperative planning, increases the successful rate of difficult reconstructions in head and neck and diminishes the patient’s discomforts.

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Pursuing Mirror Image Reconstruction in Unilateral Microtia: Customizing Auricular Framework by Application of Three-Dimensional Imaging and Three-Dimensional Printing

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INTRODUCTION: The advances in three-dimensional imaging and three-dimensional printing technology have