hyper-emergent NIS caseload volumes continue to increase, comparison of current and prior caseload acuity trends may allow the individual healthcare system to better optimize for efficient resource allocation, provider coverage determination, and fair on-call provider reimbursement.

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E-082 ENDOVASCULAR PREOPERATIVE EMBOLIZATION FOR TEMPOROMANDIBULAR JOINT REPLACEMENT SURGERY

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Background and purpose This retrospective study evaluates the safety and effectiveness of preoperative endovascular embolization in patients who underwent temporomandibular joint (TMJ) replacement surgery.

Material and methods We included all patients treated with preoperative embolization of the internal maxillary artery (IMAX) between June 2016 and January 2019. All patients were treated by the same surgeon using standard surgical approaches and procedures. Periprocedural adverse events, blood loss during surgery and clinical follow-up are reported.

Results Fourteen patients (12 females, mean age 32.5) were treated with 19 embolizations of the internal maxillary artery (bilateral embolizations in 7 patients) prior to TMJ replacement surgery with prosthetic joints (TMJ Concepts prostheses). Seven patients presented with TMJ ankylosis/degenerative joint disease/post-trauma deformity, 4 patients with Idiopathic Condylar Resorption and resultant mandibular displacement/hypoplasia, 2 patients with rheumatoid arthritis-associated condylar degeneration and resultant loss of mandibular position, and 1 patient being re-reconstructed following management of a prosthetic joint infection. Seven patients underwent bilateral prosthetic joint replacement. Four patients underwent

Abstract E-082 Figure 1 A 17-year-old female with past medical history of mandibular hypoplasia presenting for preoperative embolization of bilateral internal maxillary arteries. A. Pre-embolization angiogram (lateral view) of the left external carotid artery. B. The internal maxillary artery was completely embolized with coils (asterisk) with preservation of the left middle meningeal artery (MMA) (arrow) and the occluded accessory meningeal artery (AMA) got reconstituted (double arrows). Following temporomandibular joint surgery, patient had paresthesia on the left trigeminal nerve distribution more than the right at last follow-up

additional facial skeletal surgery as part of their treatment. The median blood volume loss during TMJ surgery was approximately 370 cc per patient and 246 cc per TMJ replacement surgery (range 100 cc to 800 cc). Joint space-specific blood loss was not recorded but, as per the surgical team, was significantly decreased when compared to non-embolized patients. There were no intra-procedural complications. The mean clinical follow-up was 7.1 months (range 1–24 months). The modified Rankin scale (mRS) was 0 before the procedure and at last clinical follow-up in all patients. After TMJ surgery, 3 patients reported paresthesia of the trigeminal nerve likely related to the residual condyle resection and 3 patients had mild facial nerve weakness (Temporal and/or Marginal Mandibular branch) related to the surgical exposures.

Conclusion Endovascular preoperative embolization of the internal maxillary artery (IMAX) is feasible and safe and likely effective in reducing blood volume loss in complex TMJ replacement surgery.

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E-083 COIL MIGRATION FOLLOWING INTERNAL CAROTID ARTERY PSEUDOANEURYSM OBLITERATION

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Introduction Carotid blowout syndrome (CBS) refers to the acute rupture of any segment of the common carotid artery, including both the external and extracranial internal carotid arteries (ICA). CBS often results in life threatening hemorrhage and acute upper airway obstruction. CBS is a well-known phenomenon in patients with head and neck cancer and typically occurs via direct extension of tumor into the arterial wall or iatrogenically during surgical manipulation. With a reported incidence of 4.3% following radical neck dissection and mortality rates as high as 60%, CBS must always be considered in any patient with head or neck cancer and acute hemorrhage in the oro- or nasopharynx of unknown origin. Accepted management strategies for CBS include open surgical ligation or endovascular treatment via parent vessel sacrifice or intraluminal stent placement. One of the more feared complications associated with endovascular parent vessel sacrifice is distal migration of embolic material, which can lead to ischemic stroke. Delayed migration of embolic material into the oro- or nasopharynx is extremely uncommon. We present a case of a coil migration into the nasopharynx one year following endovascular treatment of CBS that occurred during nasopharyngeal carcinoma resection.

Methods A 41-year-old female presented with brisk oral cavity hemorrhage after undergoing surgical resection of nasopharyngeal carcinoma seven weeks prior.

Results Computed tomography angiography (CTA) revealed a small 0.2×0.2×0.3 cm pseudoaneurysm arising from the medial aspect of the right ICA at the level of C1-C2 vertebrae that abutted the nasopharynx. After radiographically passing a balloon test occlusion (BTO), the decision was made to endovascularly sacrifice the right ICA. With the balloon inflated, embolization with coils and onyx was performed in the

petrous segment of the ICA. Angiography and CTA confirmed pseudoaneurysm obliteration and complete vessel occlusion. Three-month follow-up CTA demonstrated stable vessel occlusion. Eleven months following ICA sacrifice, she started to complain of throat irritation and difficulty swallowing. During a scheduled sinus debridement, exposed coils were visualized in the right nasopharynx. CTA revealed vessel wall dehiscence with extrusion of coils into the nasopharynx but continued occlusion of the vessel. The exposed coils were clipped and extracted endoscopically for symptomatic relief. Three-month follow-up angiogram confirmed stable vessel occlusion and patient has remained asymptomatic.

Conclusion CBS can be a rare and devastating complication of head and neck surgery, often requiring immediate endovascular treatment. Coil migration is a rare complication following cerebral pseudoaneurysm obliteration via endovascular vessel sacrifice. When a patient has a partially extruding coil, it is imperative to obtain imaging and treat as soon as possible to avoid further coil migration and possible airway compromise.

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E-084

RECONSTRUCTIVE AND DECONSTRUCTIVE ENDOVASCULAR TREATMENT OUTCOMES OF CAROTID BLOWOUT SYNDROME

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Introduction Carotid blowout syndrome (CBS) is a rare but dreaded complication of head and neck cancer with high mortality. Management of CBS requires a multidisciplinary approach; nevertheless, endovascular therapy remains the cornerstone in rendering hemostasis. Literature routinely describes successful hemostasis with either deconstructive (artery take down) or reconstructive (stenting or bypass) approach. Previous retrospective analysis suggests that outcomes are predicted by clinical severity at presentation, not treatment type.

Methods Single-center, retrospective case review of endovascular treatment of CBS and outcome at University of California, Irvine.

Results Five cases of CBS were identified between 2012 to 2017. All patients were head and neck cancer treated with radiation. Of the five cases, one case failed to identify the source of bleeding which required open surgical ligation. In the remaining four patients, three achieved hemostasis with

reconstruction, while the fourth was treated with deconstruction. In one of the three cases, reconstructive over deconstructive technique was chosen because the patient had bilateral lesions and previous embolization at the bleeding site failed to maintain hemostasis. All four patients were discharged from the hospital without any further complications related to the procedure achieving hemostasis. Perioperative mortality, stroke and infection rate was not identified. In the case of surgical ligation, the patient developed minor local site infection which was treated with antibiotics successfully.

Endovascular approaches permit evaluation of collateral circulation in situations where target artery warrants take down. Therefore, concurrent cerebral angiogram with endovascular therapy by way of stenting or sacrificing the target artery with embolic materials has become the alternative in otherwise inoperable condition as an emergent standard of care.

The figure shows an illustrative case of CBS with massive contrast extravasation (A), which was treated with a balloon mounted covered stent (B) due to bilateral lesions, and complete hemostasis was achieved (C).

Conclusion In our retrospective study we demonstrate continued endovascular therapy as a means of treatment for CBS to achieve emergent hemostasis. As previous literature describes successful hemostasis with either deconstructive or reconstructive technique; herein we describe four cases that required endovascular intervention with successful emergent hemostasis.

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E-085

CEREBRAL ISCHEMIC EVENTS AMONG PATIENTS UNDERGOING CAROTID ARTERY STENTING WITH OR WITHOUT EMBOLIC PROTECTION DEVICE-MULTICENTER REVIEW

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Carotid artery stenting (CAS) with distal protection device (DPD) for stenosis 70% or higher is considered an

Abstract E-084 Figure 1