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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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 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 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.


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 x 0.2 x 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