

Internal Maxillary Artery Pseudo-aneurysm: A Rare Complication of Temporo-Mandibular Joint Surgery – Case Report

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Learning Objectives

By conclusion of this session, participants should be able to recognize the possibility of this rare complication of TMJ surgery and to better treat and manage such patients in an inter-disciplinary approach.

Introduction

Over the past two decades, temporomandibular joint (TMJ) replacement with prosthetic devices has become an acceptable treatment for multiple conditions including: idiopathic condylar resorption, degenerative joint disease, ankyloses, among others. With the increase of the procedure, the incidents of other complications such as facial nerve damage, infections, and heterotopic bone formation around the prosthesis have increased. Another rare complication is the formation of an internal maxillary artery aneurysm (IMAA). There have been multiple cases of IMAA noted with facial traumas involving multiple fractures; however, with all of the joints being placed, the incidents of IMAA in the setting of TMJ surgery has not been studied or reported.



Figure 1. Patient status post TMJ surgery

Methods

Case presentation of an internal maxillary artery aneurysm forming after a right TMJ arthroplasty and reconstruction with a Biomet stock prosthesis (Figure 1).

Results

The patient, after undergoing a right TMJ arthroplasty and reconstruction, was found to have a right IMAA (Figures 2 and 3) and was treated with endovascular coiling. Complete aneurysm embolization was achieved without compromise to the distal vasculature (Figure 4) with significant improvement of patient symptoms.

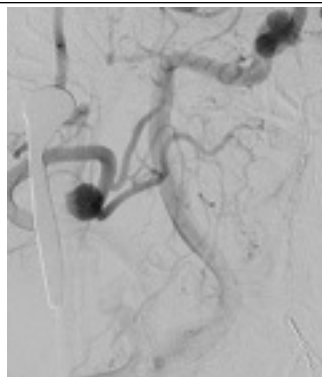


Figure 2. AP view of IMAA

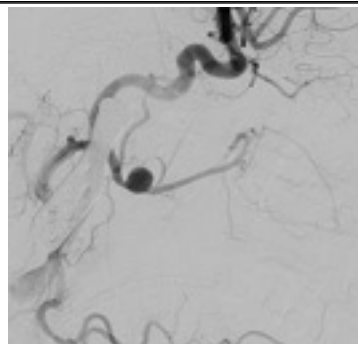


Figure 3. Lateral view of IMAA

Conclusions

Internal maxillary artery aneurysms are rare complications seen mostly in post-traumatic patients and rarely seen in maxillofacial surgeries. The above case presents a patient who developed such a lesion after TMJ surgery with prosthesis placement, presenting a noteworthy complication of a procedure that has increasingly been performed over the past 20 years. Bringing into light the possibility of such a lesion will allow clinicians to be better equipped to recognize and appropriately treat this disease, continuing to support the paramount role an inter-disciplinary team plays in improving patient care.

Discussion

Internal maxillary artery aneurysms in the setting of facial trauma are best described as pseudo-aneurysms. Pseudo-aneurysms, unlike true cerebral artery aneurysms which have all three components of the arterial wall, are due to extravasation of blood. The blood organizes as the intravascular and extravascular pressures equalize. Fibrous capsule forms around the hematoma and pulsations of the hematoma continue to develop. With expansion, the pseudo-aneurysm enlarges and carries with it mass effect and the risk of hemorrhage.

Although a rare complication, majority of these lesions as stated are seen post trauma. Non-traumatic cases have been reported, including one following sagittal split ramus osteotomy, and another after Le Fort I osteotomy, both of which underwent coil embolization for treatment. Thus, post maxillofacial surgical procedures themselves, which can be considered iatrogenic traumatic cases, carry the risk of creating such lesions and thus it is important for clinicians to be aware of such a possibility.