**ABSTRACT**

**Educational Objective:** At the conclusion of this presentation, the participant should be able to recognize trauma as a potential cause of sinus mucoceles and discuss the options for management.

**Objectives:** To highlight a unique presentation and subsequent management of a frontoethmoid mucocele caused by trauma.

**Study Design:** Case report and literature review.

**Methods:** The patient chart, including history, physical examination, radiologic imaging, operative report and pathologic results, was reviewed. A literature search was performed; appropriate English-language papers were identified and reviewed.

**Results:** The patient is a 40-year-old woman who suffered a gunshot wound to the nasal region 15 years prior to presentation. At that time, she was managed surgically, including enucleation of one eye. She presently developed preseptal cellulitis of the remaining eye. Physical exam was notable for an enucleated right eye, swelling and erythema of her left eyelid extending 2 cm periorbitally, chemosis, pain with vertical eye movement and limited superior gaze. (Figure 1)

An endoscopic nasal exam revealed a large perforation of the cartilaginous septum without evidence of erythema or mucopurulence. (Figure 2) A non-contrast CT scan of the head, showed soft tissue expansion in the left maxillary, ethmoid and frontal sinuses with a fair amount of preseptal swelling. (Figure 3) A large frontoethmoid mucocele was noted which produced bony erosion of the lamina papyracea, anterolateral displacement of the globe and complete sinonasal separation.

**DISCUSSION**

- Mucoceles can arise well beyond the acute traumatic period, with symptoms often being insidious. Their development is a process that involves obstruction of sinus egress via remodeling, inflammation or a combination of factors.
- Review of the literature failed to document cases or treatment of complete sino-nasal separation with complete obstruction of the frontal sinus outflow tract.
- Har-El et al describes a method of addressing paranasal sinus mucoceles via marsupialization and stenting of a stenotic outflow tract to allow irrigation. The authors observed close to a 0% recurrence rate on follow up.
- In this patient, the frontal sinus outflow tract could not be identified clinically or radiographically. With the described approach a potential neo-outflow tract was created and temporary stenting allowed for mucosalization and stabilization to occur.
- Benoit et al performed a retrospective chart review of 62 patients who underwent combined external and endoscopic frontal sinusotomy with stent placement. At 12 months of follow up, 78% of patients treated had significant improvement or complete resolution of symptoms with 0% experiencing mucocele formation.

**CONCLUSIONS**

- Traumatic events remain an important factor in the development of mucoceles.
- Surgical intervention via endoscopy with outflow tract stenting in a completely obstructed outflow tract can serve as a viable treatment option to re-establishing mucus flow after complete obstruction.

**REFERENCES**