The patient is a 41 year-old man who presented to our clinic with a chief complaint of left eye enophthalmus (Figure 1). In addition, he noticed pressure, dryness, and fatigue. The patient was otherwise healthy at the time of presentation with an incidental heart murmur. He took no medications and had an allergy to ceclor.

Silent Sinus Syndrome (SSS) is a rare but important complication of sinonasal surgery. SSS is caused by ostiomeatal complex obstruction, resulting in maxillary sinus hypoventilation. This may lead to negative pressure causing downward pressure on the orbital floor, perhaps through absorption of gases in the maxillary sinus.

During inferior turbinate outfracture, care should be taken to avoid destabilization of the uncinate process, which may lead to SSS.

CASE REPORT

Objectives:
1. Identify silent sinus syndrome (SSS) as a potential complication of nasal surgery.
2. Understand current theories about the pathophysiology of SSS.

Methods:
The study is a case report.

Results:
SSS describes the progressive enophthalmos and hypoglobus associated with an obstructed, opacified maxillary sinus. These symptoms may be caused by gradual collapse of the orbital floor in response to negative pressure generated by absorption of gases within the underlying atelectatic maxillary sinus. As its name implies, SSS typically presents with insidious visual changes or eye complaints in the absence of severe sinus symptoms. We describe a case of SSS that developed after uncomplicated septoplasty and bilateral inferior turbinate outfracture for nasal obstruction. The patient's enophthalmos improved with partial re-expansion of the maxillary sinus following prompt maxillary antrostomy.

Conclusion:
SSS should be a consideration among the possible complications following nasal surgery, including outfracture of the inferior turbinate.

REFERENCES


While some have theorized that SSS represents a congenital abnormality, case reports of patients with normal CT scans prior to the development of SSS (as in our patient) support the idea that SSS is an acquired condition. The majority of reported cases of SSS occur spontaneously. Trauma to the orbit has also been associated with the subsequent development of SSS. SSS has been rarely reported as a complication of craniofacial surgery, but has been seen following endoscopic sinus surgery and open cosmetic septoplasty.

Treatment of SSS involves prompt re-aeration of the atelectatic maxillary sinus. Historically, this was achieved via a Caldwell-Luc approach, but with the rise of endoscopic techniques the current standard of care involves an endoscopic uncinectomy and maxillary antrostomy. During this procedure, extreme caution must be taken to avoid entering the orbit, which will be displaced downward. Typically, reconstruction and augmentation of the orbital floor will also be required, although there remains some debate as to whether this should be done concurrently or as a second-stage procedure.

While SSS appears to be a rare complication of septoplasty and inferior turbinate outfracture, our case underscores the importance of meticulous surgical technique to avoid destabilizing the uncinate process when outfracturing the inferior turbinate.