Orbital Silastic Implant as a Cause for Chronic Rhinosinusitis

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Abstract

Background: Silastic implants have been widely used for repairing orbital floor fractures. Previous reports have demonstrated the migration of these implants as the nidus for the late complication of chronic rhinosinusitis. This has typically been thought to be a rare complication. We report a case of silastic implant migration as a cause of chronic maxillary sinusitis, and a literature review of alternative orbital implant materials as a similar etiology for these complications.

Study Design: Case Report

Methods: The literature was reviewed for cases of orbital silastic implant migration as a cause of sinusitis. Review was also performed for alternative materials (autologous grafts, porous plastics, and titanium), as a cause of similar complications.

Results: A 77-year old male presented with a four-month history of nasal symptoms and a remote history of left orbital floor fracture repaired with a silastic implant 7 years ago. Computed tomography scan demonstrated migration of the implant into the left maxillary sinus with obstruction of the maxillary ostia. Endoscopic, transnasal removal of the implant was performed as well as maxillary antrostomy. Six similar cases have been reported, with a mean presentation of 16 years after fracture repair. Migration of autologous bone grafts, porous plastics (MEDPOR), or titanium implants, as a cause for sinusitis, have not been reported.

Introduction

Various materials have been used in the reconstruction of orbital floor defects following mid-facial trauma. Among these silastic implants have been widely used for this purpose. There have been previous reports of silastic sheet migration. This has also been demonstrated to be the nidus for a late complication of chronic or recurrent acute rhinosinusitis. This has typically been thought to be a rare complication.

We report a case of silastic implant migration as a cause of chronic maxillary sinusitis, and a literature review of alternative orbital implant materials as a similar etiology for these complications.

Case Report

A 77-year old male presented with a four-month history of nasal congestion, rhinorrhea, and left maxillary facial pressure. He also reported a remote history of left orbital floor fracture repaired with a silastic implant 7 years ago. The patient had no visual complaints and denied diplopia. Endoscopy in the clinic revealed edematous and polypoid mucosa in the area of the left middle meatus. Computed tomography scan of the sinuses was ordered and demonstrated migration of the a radio-opaque implant into the left maxillary sinus with obstruction of the maxillary ostia.

The patient was brought to the operating room for endoscopic, transnasal removal of the orbital silastic implant. The edge of the implant was apparent in the left osteomeatal complex and was surrounded by edematous and polypoid mucosa. The silastic sheet was grasped with straight Blakesly forceps and removed from the middle meatus. A maxillary antrostomy and anterior ethmoidectomy was performed and polypoid mucosa was microdebrided. Retained secretions within the maxillary sinus were evacuated.

The patient was seen in follow up with resolution of his nasal symptoms. There were also no changes in the patient's preoperative vision status.

Discussion

Migration of silastic implants, as a cause of rhinosinusitis, is a relatively rare and late complication of orbital floor fracture repair. Nevertheless this has been reported in the literature on multiple occasions. Literature review revealed six other reported cases of orbital silastic implant as an etiology for chronic or recurrent acute rhinosinusitis. The case we present here is similar to previous reports of this complication. Our patient presented 7 years after orbital floor surgery, and the mean time to presentation in the other reported cases was 16 years.

The literature was also reviewed to determined if alternate materials for orbital floor reconstruction had resulted in migration with development of chronic rhinosinusitis. These complications have not been reported for autologous bone grafts, porous plastics (MEDPOR), or titanium implants. Therefore this may be a problem unique to silastic sheets as a material for orbital floor reconstruction.

Figure 1. Endoscopic view of migrated silastic implant (arrow) directly superior to Frazier suction tip.

Figure 2. Coronal sinus CT demonstrating the migrated silastic implant (arrow). The infundibulum and the left osteomeatal complex are obstructed by the implant and reactive edematous mucosa. The maxillary sinus is opacified.

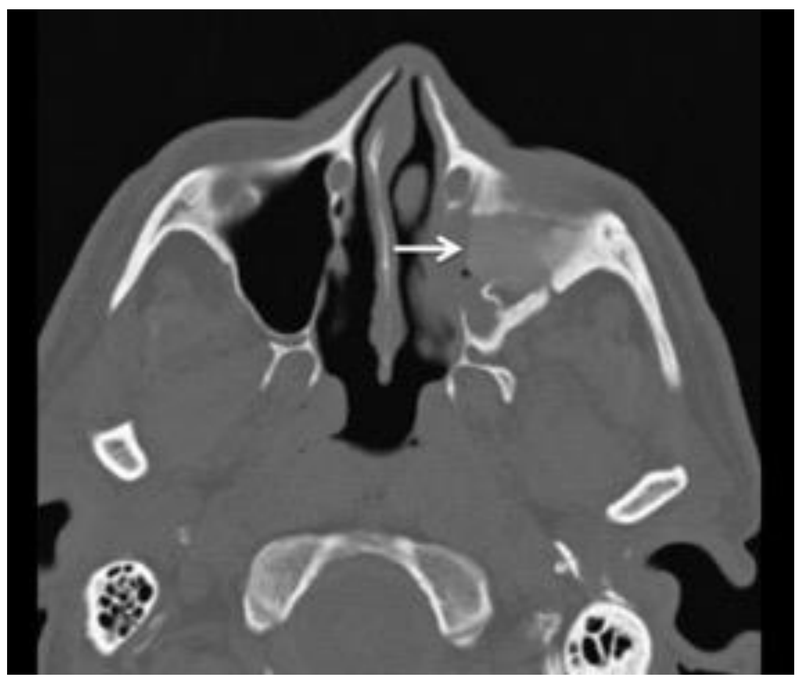

Figure 3. Axial sinus CT demonstrating the cross sectional area of the migrated silastic implant (arrow).

Methods

The literature was reviewed for cases of orbital silastic implant migration as a cause of sinusitis. Review was also performed for alternative materials (autologous grafts, porous plastics, and titanium), as a cause of similar complications.

Conclusions

Migration of silastic implants, as a cause of rhinosinusitis, is a relatively rare and late complication of orbital floor fracture repair. Nevertheless this has been reported in the literature on multiple occasions, while similar complications with alternative materials have not been described.

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