ARS NOSE NEWS JUNE 2018

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PRESIDENT'S REPORT

Richard Orlandi, MD, FARS

Hello and welcome to the summer edition of the Nose News. It is a pleasure for me to update you on all the goings-on in your ARS.

ARS Summer Sinus Symposium. We are rapidly approaching the ARS Summer Sinus Symposium (SSS), to be held this year in Seattle on July 12-14. The SSS is free to ARS members and all are welcome to join. The sessions are primarily panel-based, maximizing discussion and interaction with our colleagues. A Thursday evening cocktail reception at the beautiful Chihuly Glass Museum promises to be an unforgettable event. We look forward to seeing you at this great meeting.

ARS at COSM. The spring meeting of the ARS was held in National Harbor, MD, just south of Washington, DC. Latest research in rhinologic pathophysiology and cutting-edge treatments were discussed. Thanks to the program committee for their work. And a reminder to us all, the ARS will not be joining COSM in 2019 but instead will be meeting in Chicago in association with ISIAN and IRS on June 6-9, 2019. Save the date for this chance to collaborate with experts from around the world.

Women in Rhinology. At the ARS Board of Directors meeting at COSM, two important initiatives were moved forward. One of these is the formalizing of our Women in Rhinology (WiR) group. This grassroots group has led the way in our society in raising our collective awareness of issues surrounding diversity and inclusiveness. At the Board meeting, the WiR put forward a motion to create sections within the ARS that better accommodate larger groups such as the WiR and formalize their relationship with the rest of the ARS. I applaud their efforts and look forward to a positive effect from this recommendation.

ARS Approval of Fellowships - Rhinology Training Council. The Rhinology Training Council has conducted a 2-year exhaustive review of rhinology fellowships. They have created a process whereby the ARS will approve fellowships who meet set requirements and provide ongoing oversight. This significant advance will provide better transparency for fellowship applicants and hopefully raise the bar for their training. The process will begin this summer. The Board of Directors, as well as fellowship directors have endorsed the RTC's work.

I have been a member of the ARS for more than 20 years. However, it is only now, with the perspective of being your president, that I am fully beginning to understand the incredible dedication that so many of you have to this society and its mission. During our leadership meetings and phone calls, I hear updates of the great work you are all doing to move this society forward and benefit our patients. I am also fully aware of the stalwart dedication of our staff. We are all indebted to one another for these truly heroic efforts. Thank you!

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SUMMER SINUS SYMPOSIUM 2018 UPDATE

Greg Davis, MD FARS; Marc Dubin, MD FARS; Doug Reh, MD FARS

In July 2018, the ARS Summer Sinus course moves to beautiful Seattle, Washington to offer an exciting new city for participants to explore as well as an unforgettable signature cocktail event at Chihuly Garden and Glass Museum.

The program will start on Thursday afternoon (July 12th) and include panels on successful techniques in primary endoscopic sinus surgery, frontal sinus surgery and revision sinus surgery. The unforgettable signature cocktail reception at the Chihuly Garden and Glass Museum will follow Thursday's panels. Friday's sessions include a discussion of office-based procedures followed by panels on techniques for the management of the challenging nasal polyp patient. The live prosection will demonstrate successful technical pearls for in-office and operating room procedures. On Saturday, the course will provide a full day of panels on how to deal with the persistently infected sinus despite adequate sinus surgery and a review of coding controversies in sinus surgery. Saturday afternoon will feature breakout rooms with over a dozen panels to allow attendees flexibility to choose their own individualized program.

The main goal of the Summer Sinus Symposium is to provide high-yield, state of the art, educational opportunities for ALL providers of sinonasal patient care. Improving patient care, whether in the office, surgery center, or the operating room, is our number one priority! From minimally invasive techniques under local anesthesia to revision polyposis cases, we will go over it all! Come to Seattle this July and experience the Pacific Northwest's most beautiful city and gateway to the Pacific and Alaska.

We look forward to seeing everyone in Seattle in July!

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FALL MEETING HIGHLIGHTS

Jim Palmer, MD, FARS

The Annual Meeting of the American Rhinologic Society will be held October 5-6, 2018. Held on the Friday afternoon and Saturday preceding the AAO-HNS annual meeting, the sessions will take place in the Westin Peachtree Plaza, at a beautiful time of year to visit Atlanta!

Following on the heels of our successful COSM meeting in Washington, DC and the Summer Sinus Symposium in July, the ARS annual meeting will feature impressive scientific and clinical content. Numerous scientific papers touching all aspects of rhinology chosen from scores of submitted abstracts will be presented in both combined plenary and three breakout sessions. Over 70 podium presentations and over 100 posters will provide a rich educational experience and will undoubtedly lead to robust discussions and additional research questions. Please join me in thanking the program committee for their hard work in choosing among so many submitted abstracts and creating a high-quality program.

One of the highlights for our Fall meeting is the annual Kennedy Lecture. Now in its 14th year, the Kennedy Lectureship has brought us the perspectives of many leaders in the field of rhinology. This year will be no different. Noam A. Cohen, MD, PhD is the Kennedy Lecturer for 2018 and will be addressing basic science findings in the pathophysiology of chronic rhinosinusitis research.

The panels for our Fall meeting will be varied and engaging. Among them will be a Joint AAOA-ARS panel, looking at the new category of biologics in treatment for nasal polyposis. A special session will be dedicated to the Women in Rhinology and Residents and Fellows, with a special lecture to bring topics important to these groups to the fore. Finally, the

Rhinologic Film FESStival, an ever-popular feature of the Fall meeting, will challenge us with new advances and techniques.

There's a large amount of material and definitely something for everyone in this year's Fall meeting. I look forward to seeing you in Atlanta!

Register Now!

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RHINOLOGY PERSPECTIVES: ALTERNATIVES TO OPIOIDS AFTER ESS

Adam J. Folbe, MD, FARS; Amy S. Anstead, MD

Recent changes in public policy demonstrate a significant response to the severity and increase awareness of the opioid epidemic. In December, Michigan became the most recent state to implement new prescribing guidelines for this public health emergency, passing several bills aimed to direct the medical profession in opioids prescribing. The laws encompass changes in prescribing opioids to minors, the number of opioids that can be dispensed at once, informed consent rules, and mandate that the provider query a state-wide database. (1)

A recently published New England Journal of Medicine study titled *The Public and the Opioid-Abuse Epidemic* by Blendon RJ and Benson JM, examined the 2016-2017 data from 7 national polls evaluating public sentiment regarding courses of action to address the epidemic. One of the revelations that came out of the study was that 33% of the people surveyed blamed physicians for inappropriately prescribing pain medicine while 28% blamed people who sold the pills illegally (2).

Svider et al. published an evidence based review examining perioperative analgesia for patients undergoing endoscopic sinus surgery. (4) The analysis examined evidence to support clinical recommendations for various non-opioid alternatives, ultimately concluding several agents such as NSAIDs and acetaminophen, can be used effectively in controlling perioperative pain in patients undergoing sinus surgery. In clinical trials examining the use of these agents following sinus surgery, successful protocols emphasized the importance of scheduling these medications to minimize perioperative pain rather than using them on an "as needed" basis.

By not overprescribing post-operative opioids, surgeons can decrease the number of unused pills in the population, minimizing misuse and diversion. In that vein, Patel et al. published a case series examining patients use of opioids following rhinoplasty. Each patient was given between 20-30 tablets of Norco. The mean number of pills taken by their patients was 8.7 tablets (6).

As both federal and state governments make the opioid crisis a priority, an area of immediate impact remains the medical community's use of opioid prescriptions. Establishing an evidence-based approaches and guidelines for procedure specific opioid prescription should be the goal of future studies. Such studies will benefit current practitioners as well as medical schools and residency programs as they begin to address this topic. As our capacity to perform procedures of both increasing complexity and refinement continues to evolve, so too should our efforts to ensure appropriate and responsible evolution of the pain management associated with our profession.

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CASE OF THE QUARTER

Wayne D. Hsueh, MD; Alejandro Vázquez, MD; Jean Anderson Eloy, MD, FARS

Case Description

An otherwise healthy 48-year-old man presented to the Emergency Department (ED) following a motor vehicle collision in which he was a struck pedestrian. Computed tomography (CT) of the head and face showed multiple bilateral midface fractures as well as a displaced fracture of the right frontal sinus, with involvement of both the anterior and posterior tables. He had also suffered intraparenchymal and subdural hemorrhages, which required placement of an external ventricular drain. A decision was made by neurosurgery to delay repair of the frontal sinus fracture in order to allow the intracranial injuries to resolve.

Two weeks after discharge, however, he presented to the ED with complaints of headache and nausea. CT showed significant right-sided pneumocephalus associated with a defect in the right posterior table of the frontal sinus **(Figure 1)**. After a discussion with the neurosurgery team, he was taken to the operating room for an endoscopic endonasal repair of the skull base defect.

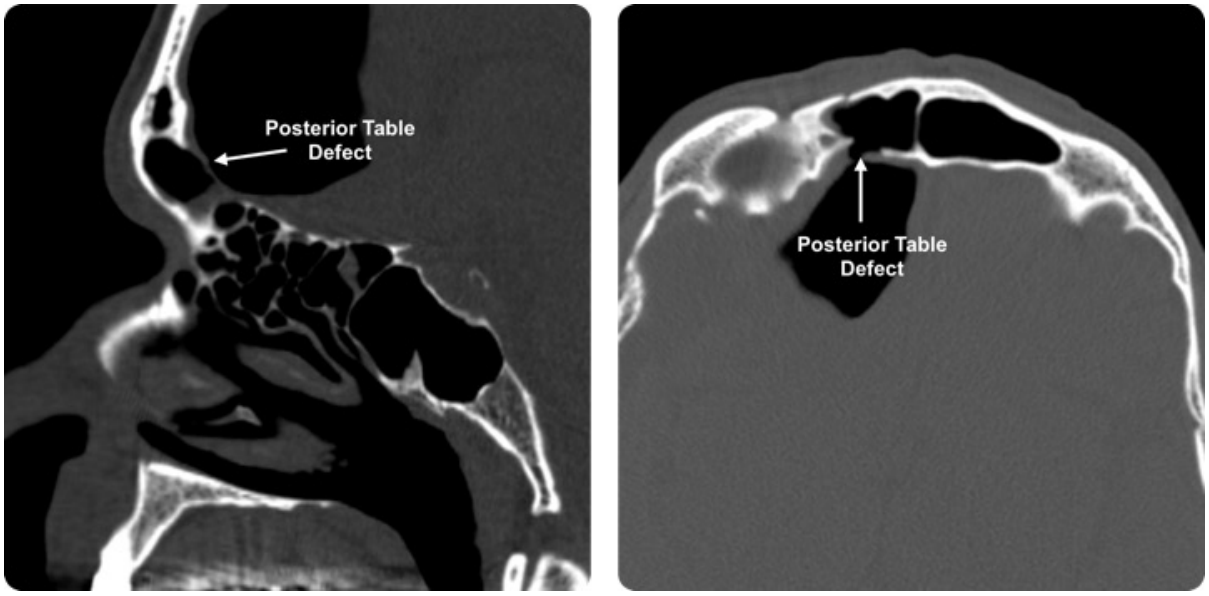

Figure 1. Sagittal (A) and axial (B) CT scans demonstrating the posterior table fracture and accompanying pneumocephalus.

An endoscopic **modified subtotal-Lothrop procedure** (MSLP, or Eloy IIE procedure) was selected for the approach.[1-3] First, intrathecal fluorescein was administered via a lumbar drain. A right maxillary antrostomy, total ethmoidectomy, and a standard Draf IIB frontal sinusotomy were completed. A large bony defect measuring 1 x 3 cm was noted in the posterior table, with a fracture line extending inferiorly into the frontal sinus outflow tract. No extravasation of fluorescein was seen. In order to achieve complete exposure and enhance surgical access, the Draf IIB sinusotomy was converted to a MSLP by creating a superior septectomy and resecting the frontal intersinus septum (**Figure 2**). The defect was repaired in two layers using an acellular dermal allograft (underlay) and a free mucosal graft harvested from the middle turbinate (overlay) (**Figures 3 & 4**).

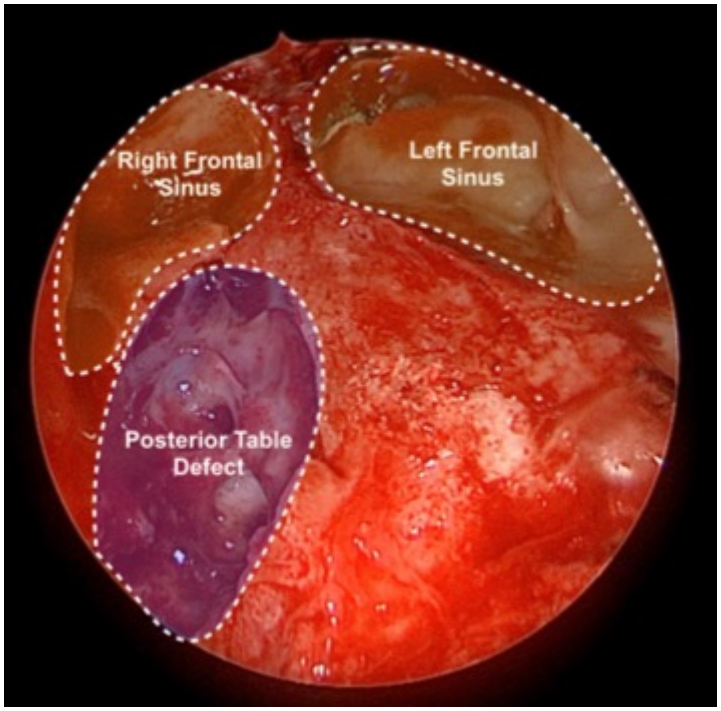

Figure 2. Completed modified subtotal Lothrop procedure (or Eloy IIE procedure) with visualization into bilateral frontal sinuses and complete access to the posterior table defect.

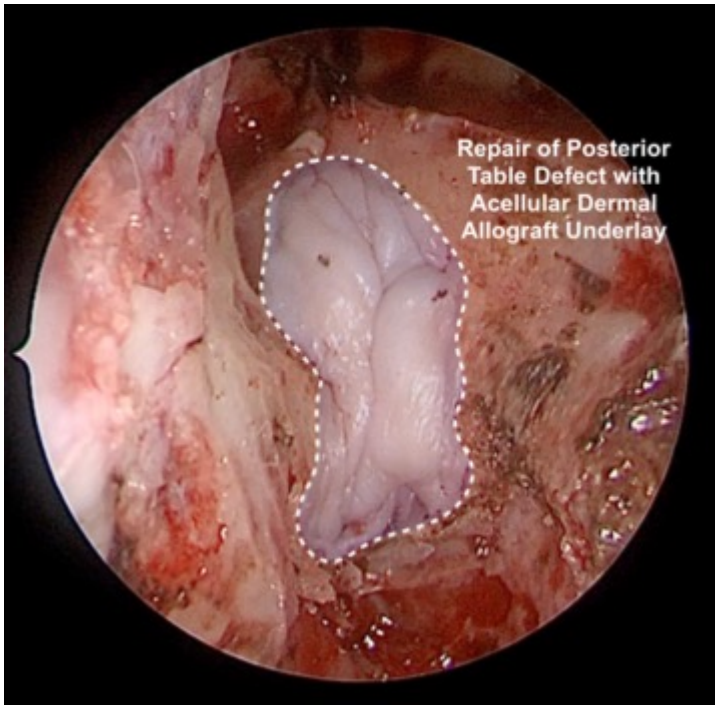

Figure 3. Placement of acellular dermal allograft underlay into the posterior table defect.

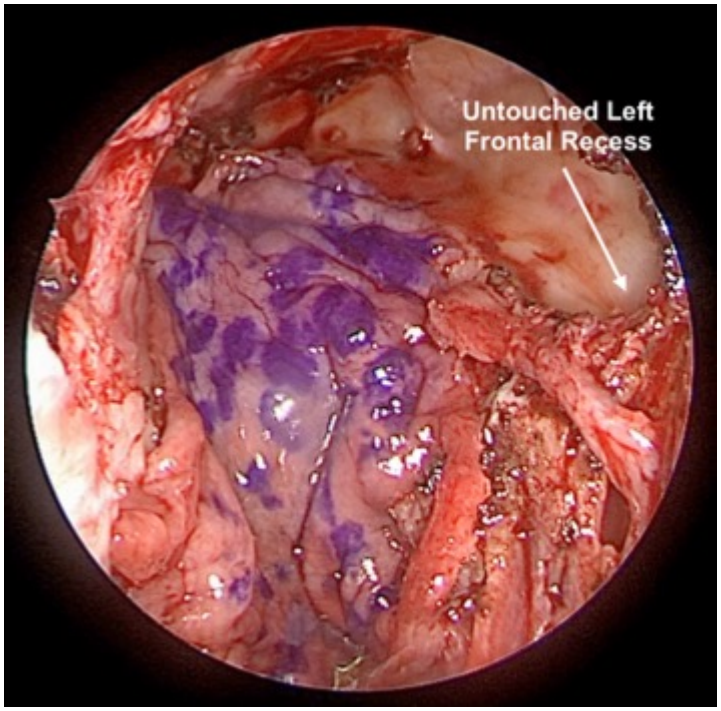

Figure 4. Placement of free mucosal graft harvested from the middle turbinate as an overlay onto the posterior table defect. The left frontal recess remains untouched because of the modified subtotal Lothrop technique.

The lumbar drain was removed on the second postoperative day, after CT showed decreased pneumocephalus. He was discharged home on the fourth postoperative day. He was seen in the office two weeks later with resolved headaches, no vision changes and no clear rhinorrhea.

Management of Frontal Sinus Fractures

Through the decades, surgeons have proposed various classification schemes for frontal sinus fractures. Regardless of the system employed, the characterization of any frontal sinus injury entails an assessment of three distinct structures: the anterior table, the posterior table, and the frontal sinus drainage pathway (FSDP, also known as the nasofrontal duct or frontal sinus outflow tract). Fractures may be restricted to a single subsite or involve a combination of the three.[4] Radiographically, they may be nondisplaced or displaced. Clinically, they may be asymptomatic or associated with overt, immediate complications, such as cosmetic deformities or cerebrospinal fluid (CSF) leaks.[5]

Generally, isolated anterior table fractures that are nondisplaced may be managed with observation. Displaced fractures that affect cosmesis can either be (a) reduced/repaired in the acute setting, or (b) camouflaged in a delayed fashion. Recent studies have suggested that anterior table fractures can also be reduced endoscopically with excellent cosmetic results.[6]

Posterior table injuries can lead to intracranial complications. In the absence of radiographic abnormalities of the frontal sinus proper, nondisplaced posterior table fractures can be observed. The presence of relatively minor abnormalities—such as partial sinus opacification—can signal an underlying dural laceration and CSF leak or encephalocele.[7] In these cases, these patients can be closely observed, or a direct examination of the site of injury could be warranted. This may be accomplished with the use of an endoscope through a frontal sinus trephination (or, if applicable, through an existing laceration and/or anterior table defect). If a defect is noted, it can be repaired endoscopically.

A similar approach (to the anterior table) can be applied to minimally-displaced posterior table fractures. Fractures with significant displacement generally warrant exploration. Depending on the extent of the fracture and the fracture pattern, repair may be performed endoscopically using an approach similar to the one described in our present case. If such an approach is not feasible—for instance, in the setting of severe comminution—then cranialization becomes an option. Cranialization, which is typically performed in conjunction with a neurosurgeon, begins with a coronal incision and elevation of a pericranial flap; removal of the posterior table (which is often severely fractured as well); complete removal of all sinonasal mucosa; wound cleaning, debridement, and dural repair; and obliteration of both FSDPs.

Fractures that involve the FSDP—whether in isolation or in conjunction with other types of fracture—raise concern for delayed complications: namely, the development of frontal sinus mucoceles or post-obstructive frontal sinusitis. In these cases, management with close follow-up is an option. In the absence of a significant posterior table defect that would warrant an open approach, FSDP fractures can be addressed endoscopically. A Draf IIB frontal sinusotomy can provide sufficiently wide exposure; however, in many cases, a more extensive approach is warranted, such as a Draf III procedure or one of the variants described by the authors previously.

These approaches may obviate the need for a frontal sinus obliteration, a procedure in which the sinus is packed with autologous graft material (such as fat) after complete stripping of all viable mucosa and sealing of the FSDPs. For a long time, frontal sinus obliteration was the method of choice for establishing a “safe sinus” (albeit a nonfunctional sinus). With the endoscopic approaches, an equally “safe sinus” can be achieved by reestablishing frontal sinus patency and preserving frontal sinus function.

Summary

This case illustrates the ability to endoscopically repair a posterior table frontal sinus fracture with CSF leak. With advances in endoscopic sinus surgery, it is increasingly important for rhinologists to gain experience with Draf IIB, Draf III procedures, and their recently described modifications. This will lead to confidence in approaching the frontal sinus and improvement in patient outcomes.

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RESIDENTS & FELLOWS COMMITTEE UPDATE

Joshua Levy, MD, MPH

The American Rhinologic Society (ARS) is serious about training our future leaders. There is no better example of this commitment than the ARS Incoming Fellows Course. Started in 2008 by Drs. Seth Brown and Todd Kingdom, this event pairs incoming rhinology fellows with established ARS leaders for a unique weekend of networking and didactic training. Thanks to the support of our corporate sponsors, Karl Storz and Medtronic, incoming fellows may participate without cost, and directly benefit from an educational program led by Drs. Seth Brown, Joe Han and Joey Raviv. Highlights of this year’s 10th annual program include fourteen lectures from eleven ARS leaders, including lectures on becoming involved in the ARS, endoscopic orbital surgery, anterior and mid skull base anatomy and contract negotiation. Not only beneficial for the incoming fellows, this course also offers ARS leaders not associated with fellowship programs the opportunity to provide rhinology training. This year’s course took place from May 4-5, with lectures at the Hilton Orrington Evanston in Evanston, IL and a cadaveric dissection at NorthShore Hospital in the Grainger Center for Simulation and Innovation Lab (GCSI).

For junior residents interested in additional education and training in rhinology and skull base surgery, the ARS Education Committee has many great educational events including the Resident Dissection course that is held in conjunction with the fall annual meeting. This year’s Resident Dissection course will be October 4-5 at the Westin Peachtree Plaza, Atlanta, GA., led by Drs. Eric Wang, Garret Choby, and Jeremiah Alt. This two-day course features an afternoon of didactics followed by a social event with ARS leadership supported by Intersect ENT and a hands-on cadaveric dissection session the following morning supported by Olympus. Registration is open to all ARS resident members currently in training. Other great educational materials including the ARS Webinar Series and the Surgical Video Library can be found on the ARS Website.

For additional information contact Wendi Perez (wendi@amrhso.com).

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ARS RHINOLOGY TRAINING COUNCIL UPDATE

David Poetker, MD, MPH

There have been some exciting developments regarding Rhinology Fellowships. As many likely know, the number and variability of rhinology fellowships has grown substantially over the past 15 years. Fellowship applicants have little information to guide their choice of opportunities and those hiring fellowship graduates have a similar lack of information on their experience.

After extensive research and discussion, the ARS Board of Directors has elected to create oversight of fellowships, modeled after that of the Head and Neck Society. As the current state of sinus surgery training in the United States is quite good, we do not feel that standard endoscopic sinus surgery is what needs oversight. Rather the skull base surgery and the extended sinus procedures are what we feel need the oversight.

The oversight body has been named the ARS Rhinology Training Council (RTC). Participating in the council's oversight is voluntary and approved fellowships will be able to provide a Certification of Completion of NeuroRhinology – Advanced Sinus Surgery to their graduates.

By focusing fellowship oversight on skull base and extended sinus procedures this process will have the least impact on resident education as well as the scope of the general otolaryngology practice.

The ARS leadership and the RTC wanted to make all ARS members aware of these pending changes in the rhinology fellowships and assure everyone that they foresee only positive effects from this change.

For more information, check out the ARS website, RTC section!

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OFFICE MANAGEMENT OF RECURRENT NASAL POLYPS

Jasper Shen, MD; Robert Kern, MD, FARS

Chronic rhinosinusitis with nasal polyposis (CRSwNP) is a broad phenotype of CRS with an estimated incidence of 1-4% in the US population.[1] Characterized by eosinophilic inflammation and type 2 cytokines, CRSwNP has a higher relapse rate after treatment than CRSsNP.[2] Standard medical management of CRSwNP includes saline irrigation, topical steroids and bursts of oral corticosteroids, with the latter associated with significant short and long-term side effects.[3] When appropriate medical therapy fails, endoscopic sinus surgery (ESS) is indicated to debride inflamed tissue and to improve access for corticosteroid irrigations. Despite this, recurrence of polyps after ESS is high, 40% at 18 months post surgery.[4] Biologics, while promising, are cost prohibitive and not approved for CRSwNP at this time. Patients who present with recurrent polyposis despite multiple rounds of corticosteroids and revision ESS continue to be management problems. The overall need for repeat ESS has been reported at 20% in a large study from the UK.[5]

For select patients with recurrent polyposis after complete ESS, endoscopic office polypectomy can be an option.[6] The main advantages of office-based procedures are decreased overall costs, faster recovery, and avoidance of general anesthesia. Scarring, bleeding and patient tolerance may be problematic, limiting both the durability and overall efficacy of office polypectomy.

Recently, an additional office alternative has been developed to manage recurrent polyps. The mometasone steroid-eluting sinus implant (SINUVA(TM) Sinus Implant, Intersect ENT, Inc., Menlo Park, CA) received FDA approval in December 2017 following the completion of a phase III randomized controlled trial (RCT).7 SINUVA met its co-primary efficacy endpoints, which included statistically significant reduction of bilateral polyp grade (p=0.0073) as well as reduction of nasal obstruction/congestion score (p=0.0074) from baseline. SINUVA also achieved 4 of 5 of the secondary endpoints, including, most importantly, the decrease in the need for revision sinus surgery by 61%.[7] The implant provides a high level of steroids (1350 mcg of mometasone furoate, MF) for 90 days directly to ethmoid mucosa, bypassing the compliance and access

limitations of standard topical corticosteroids, while also avoiding the systemic adverse effects of oral corticosteroids. A previous pharmacokinetic study showed no quantifiable plasma concentration of MF or any level of adrenal suppression after implant application.7 This safety profile suggests that repeat implant placement may be a viable strategy, especially in those whose co-morbidities preclude surgery. As such, SINUVA represents a welcomed addition to the armamentarium in the office management of recurrent polyposis.

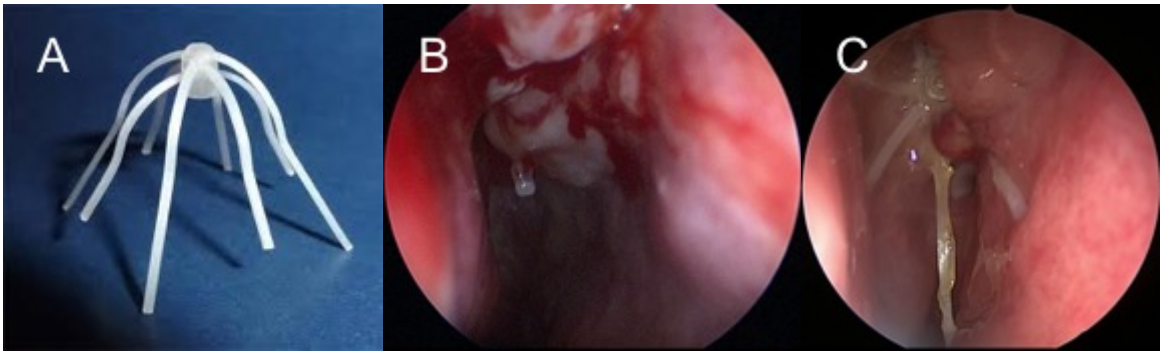

Figure 1 - In-office mometasone furoate implant. A) Placed during a routine office visit, SINUVA expands in the sinus cavity and delivers high dose topical steroids directly to adjacent polyps for 90 days. B) Post-implant placement endoscopy of SINUVA placed in right ethmoid, grade 2.5 polyps. Small portion of the implant can be seen posteriorly (arrowhead) C) In the same patient at only 2 weeks, there is significant polyp clearing around the SINUVA, and the top of implant can be visualized. (arrowhead)

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2018 FRIENDS IN RESEARCH CAMPAIGN

The 2018 Campaign is already off to a great start and we thank the many members who have already contributed (see below). If you have not already donated, please consider making a donation today. With your support, we can continue to fund the studies that provide clinical insights valuable to the care of our patients. In the past, these efforts have helped to establish the ARS and its members as the leaders in rhinologic research. This work not only advances the care of our patients through scientific innovation, but also generates important data establishing the efficacy and cost effectiveness of our care. In the current financial landscape, this is equally important to ensure that our patients have access to the treatment necessary to address their complaints.

We thank you again for your help in this worthy endeavor!

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The American Rhinologic Society would like to express our deepest thanks and appreciation to the participants of our Corporate Partners Program. Our corporate partnerships have been invaluable in their support of ARS initiatives to promote excellence in rhinology and skull base surgery. Through our ongoing collaborative relationships, we hope to continue to mutually develop exciting and lasting opportunities for our members to enhance education, investigation, clinical care, and patient advocacy in the future.

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KARL STORZ — ENDOSKOPE

gold

Optinose

silver

Bronze

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