Nose News UPDATE

American Rhinologic Society - Volume 21:2 Spring 2002

Paul H. Toffel, M.D.
President

Ten Years of Rhinologic Leadership

The superb commitment of your society's officers, Board of Directors, and young consultants at the recent Winter Board Meeting in New York City was gratifying and nostalgic to all present.

I'm going to take the opportunity, in this winter 2002 President's message, to recount some exciting history of the ARS that I've been able to witness from the perspective of your Board's meeting tables since 1991.

To begin with, I remember the phone call in spring 1991 from then President Fred Stucker, inviting me to participate actively with the ARS, which he staunchly felt was the future organization for rhinosinusology in America. David Kennedy was President-Elect at that time, and a bold new direction was developing in the ARS. A sea-change of technology was taking place in the rhinologic wing of Otolaryngology that hadn't been seen since Wulstein introduced tympanoplastic microsurgery in 1958. David Kennedy was spearheading a change and upgrade with endoscopic technologies in rhinology, that improved our North American practices forever, and it appeared the ARS would be the societal fountainhead for this technology and education.

> "...American Rhinologic Society...the fastest growing and 4th largest society in American Otolaryngology"

When David Kennedy was President in 1992-93, he put rhinosinusology on the map and markedly expanded the Academic quality of our Spring and Fall ARS educational meetings. David also added the wonderful American Journal of Rhinology as a benefit to our entire membership.

The membership of the ARS began its logarithmic growth at this time, going from 300 in 1991 to 1100 in 2001. There is no doubt that David Kennedy's great leadership and participation set a standard for our society. The ARS had shifted from the "Cottle Society," to the "Kennedy Society" and had become a substantial force to reckon with in the sphere of American and International Otolaryngological Societies.

From that point forward, our ARS has undergone a meteoric rise in accomplishment on behalf of those Otolaryngologists primarily interested in rhinology.

I remember the Winter Board Meeting arranged by then Secretary Frank Lucente in 1993 in the library of his New York City Club, where the saga of the FESS coding mess was first presented by David Kennedy and Fred Kuhn, and the ARS Board of Directors immediately voted a $50,000 war chest to hire the respected Washington legal firm of Hogan and Hartson to fight this battle (and successfully).

I remember the Winter Board Meeting led by President Vijay Anand in 1995 in that same NYC Club library, where the Board first okayed the unrestricted Research Grant arm of the ARS via the formation of the Corporate Affiliates Program, which has subsequently raised over $300,000 for rhinologic academic research. The seeds of the ARS website and abstract e-module were also sown at that meeting which have now come to fruition with one of the most advanced websites in Otolaryngology, thanks to the brilliant stewardship of Martin Citardi.

In 1997 President Michael Benninger started the initiative to implement a successful Committee structure for our younger and rising members, and this has burgeoned nicely under Presidents Dale Rice, Bill Panje and Charles Gross, with much attention at many of our Board Meetings. Our current President-Elect, Don Lanza, and Vice Presidents Jim Hadley and Joe Jacobs, are continuing the committee organization structuring as I write.

In 1999 and 2000 at Board meetings under Presidents Charles Gross and Fred Kuhn, new CPT coding issues arose regarding endoscopic debridement zero global days, and application of stereotactic computer navigation. These are exactly the issues, which your nimble and effective Board of Directors continued to deal with in New York City at the 2001 winter meeting.

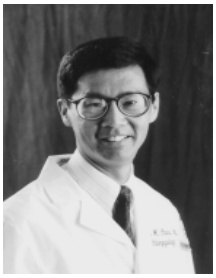
So at this point in our history, the American Rhinologic Society has become the fastest growing and 4th largest society in American Otolaryngology. The expansion of Rhinologic knowledge is the most exciting change in our specialty in the past decade, and from the good fortune of my vantage point on your Board of Directors, I judge that the future is very bright indeed, thanks to the vision of David Kennedy, and all the other wonderful president's and leaders of our modern era.

Best of luck for the New Year 2002, and please contact me if you have any thoughts to discuss.

Photo courtesy of Boca Raton Resort & Club

Boca Raton - Site of the May, 2002 ARS Meeting

Your ARS



AAO-HNS Committee Endorses Image Guidance

Communication from the Rhinology and Paranasal Sinus Disease Committee of the American Academy of Otolaryngology-Head and Neck Surgery

James M. Chow, Chairman

The Rhinology and Paranasal Sinus Disease Committee of the American Academy of Otolaryngology-Head and Neck Surgery met on September 8, 2001, to discuss a variety of issues. First and foremost, the Board of Directors approved a committee recommended policy statement that reads: The American Academy of Otolaryngology-Head and Neck Surgery endorses the intraoperative use of computer guided imaging systems in appropriate selected cases to assist the surgeon in providing localization of anatomic structures. These appropriate, specialty specific, and surgically indicated procedural services should be reimbursed whether used by neurosurgeons or other qualified physicians. Additionally, reimbursement should not be limited to particular intracranial neurological diagnoses, but expanded to include diagnoses related to extracranial and spinal indications for use of computed guided imaging systems as initially established by the AMA CPT editorial board. This includes surgery of the paranasal sinuses and skull base. [The AMA CPT editorial board developed a specific CPT code for use of computer guided imaging systems – CPT code 61795-stereotactic computer assisted volumetric (navigational) procedure, intracranial, extracranial or spinal].

Secondly, the topic of the mini-seminar planned for the 2002 Fall Academy Meeting in San Diego was selected to be "Controversies in the Management of Frontal Sinus Disease". This will be coordinated by Drs. Sillers and Casiano and will prove to be a stimulating discussion on a variety of topics related to the frontal sinus. Thirdly, the Sinus Pain Awareness month, which has been so successful in the past to educate our patients about rhinosinusitis, will be in February, 2002. This campaign site can be viewed on the Internet at www.entnet.org. Comments regarding this site are most certainly welcome. Additional topics that were discussed concern further development of patient education topics for inclusion on the Academy web site, developing a list of selected research topics of importance for possible future outcome studies and the involvement of this committee in the Sinus and Allergy Health Partnership.

This committee remains committed to addressing the concerns of the members of our Academy and I as well as the other members of this committee welcome concerns or issues that need to be addressed. Please feel free to contact me with your thoughts and ideas.

What's Ahead?

3/15/02 Abstract Deadline - ARS Fall Meeting

5/10/02 - 5/11/02 ARS Spring Meeting, Boca Raton, FL

6/15/02 - 6/21/02 ERS/ISIAN, Ulm, Germany

9/21/02 ARS Fall Meeting, San Diego, California

11/1/02 Abstract Deadline - COSM, May 2003 ARS Meeting

Sinus and Allergy Health Partnership Update

J. David Osguthorpe

The Sinus and Allergy Health Partnership, comprised of representatives from the American Academy of Otolaryngology-Head and Neck Surgery, the American Academy of Otolaryngic Allergy, and the American Rhinologic Society, continues to work on your behalf. A follow-up to the Strategic Planning Meeting of this past January was recently held in conjunction with the AAO-HNS Annual Meeting in Denver. Our new administrative assistant, Will Cusack, and a new AAO-HNS representative, Dr. Donald Lanza, were welcomed. The founding Chairman of the Sinus and Allergy Health Partnership, Dr. Jim Denneny, passed the leadership baton to Dr. Michael Benninger, as the former assumes his new duties as the Coordinator-Elect for Socioeconomic Affairs of the AAO-HNS.

Recent activities of the SAHP are summarized as follows:

1. A Breakfast Mini-seminar, attended by a capacity crowd of 1,000, heard Drs. Hadley, Benninger and Osguthorpe discuss the different evaluation and treatment parameters for acute versus chronic rhinosinusitis. The latter 2 physicians and Dr. Jim Denneny also gave part of the "Scope of Practice" Mini-seminar during another portion of the Academy Meeting. Drs. Benninger, Stankiewicz and Osguthorpe continue to work with representatives of the Centers for Disease Control and Prevention, and the Food and Drug Administration (FDA), on a study that will compare direct maxillary sinus taps with endoscopically-directed cultures in patients with rhinosinusitis. The literature would indicate a concordance in the 60-85% range, but there has not been sufficient data to establish such to the satisfaction of the FDA. A protocol has been drawn for a study of over 200 patients from the geographically dispersed medical centers represented by SAHP members.

"The American Academy of Otolaryngology-Head and Neck Surgery, the American Academy of Otolaryngic Allergy, and the American Rhinologic Society..working together on your behalf"

2. The Professor of the Day outreach to Family Medicine residencies is emphasizing University-associated training programs (103 otolaryngology residency programs and approximately 530 family medicine programs). Over 50 presentations have been scheduled to date, with the goal of the full 103 to add to the over 100 presentations at community-based family medicine residencies delivered by SAHP members and associates this past year.

3. The SAHP's first foray into interactions with managed care entities was a meeting this summer with representatives of Blue Cross/Blue Shield of Illinois, which is in a joint group of intermediaries representating Texas, Hawaii, Alaska and South Carolina. The Illinois group questioned the Medicare guideline for a zero global period after endoscopic sinus surgery, and the upshot of the discussions was that they tentatively agreed to reimburse for up to 3 nasal endoscopies and sinus cleanings in the first post-operative month. A follow-up visit with that Illinois intermediary was made by Dr. Emanuel a month ago, for a presentation on otolaryngologist care of allergy, nasal and sinus conditions.

The Sinus and Allergy Health Partnership (Drs. Benninger, Emanuel, Hadley, Kennedy, Lanza, Osguthorpe and Stankiewicz) wishes to thank the constituent organizations, and the members that they represent, for their continuing support of our educational research and socioeconomic endeavors. Please direct your questions and/or suggestions for the SAHP to its Executive Director, Jami Lucas, or Coordinator, William Cusack, at 1990 M Street, NW, Suite 680, Washington, DC, 20036 (Phone 202-955-5010, FAX 202-955-5016, e-mail www.allergysinus.org).

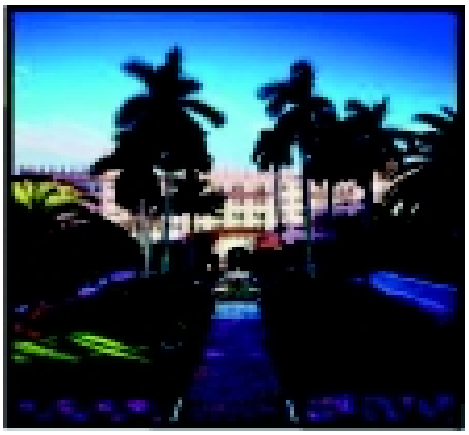


Photo courtesy of Boca Raton Resort & Club

Come to ARS Spring Meeting in Boca!

May 10-11, 2002

Our meeting will be held at the Boca Raton Resort & Club May 10th-11, 2002. Meeting registration will begin on Friday, May 10th at 12:15 pm and the scientific session kicks off at 1 pm with a panel entitled "Current Management of Epistaxis: Isn't There a Better Way?" At the conclusion of the meeting on Friday 5:00-5:30 pm there will be an ARS business meeting that is open to our membership. It will highlight a discussion of important socioeconomic issues affecting practicing rhinologists. Our Saturday scientific session begins at 8 am and is held in conjunction with the American Academy of Otolaryngic Allergy. During this session we have two more exciting panels, "Controversies in Allergic/ Non-Allergic Inflammation and Rhinosinusitis", and "Controversies in Pediatric Rhinosinusitis".

With regard to the free papers sessions, we received many more abstracts than we could accept, including several from abroad. The quality of the free papers is outstanding, clinically relevant, and spans the breadth of rhinology. Also, we will have a poster session this Spring as well as in the Fall. Authors of all free papers are required to submit their abstracts two weeks in advance of the meeting so that assigned reviewers have ample time to generate appropriate discussion on the scientific information presented. The goal of this change is to greatly enhance the scientific quality of the meeting.

Remember the abstract deadline for the Fall meeting in San Diego, is March 15th, 2002 for free papers and posters. We look forward to seeing you in Boca Raton!

Preliminary Program - ARS/AAOAF at COSM - May 10th-11th, 2002

Boca Raton Resort & Club - Boca Raton, Florida

Richard Mabry, MD
President,
American Academy of Otolaryngic Allergy (AAOA)

Paul Toffel, MD
President,
American Rhinologic Society (ARS)

5/9/02 American Rhinologic Board of Directors Meeting

5 - 7 p.m. Committee groups meet (Chairperson to arrange schedule for committees)
5 - 7 p.m. Executive committee meeting
7 - 10p.m. Board of Directors Meeting

5/10/02 - 12-1pm - ARS Registration

1:00 **ARS SPRING Scientific Session Opening Remarks – *Paul Toffel, MD/ Donald C. Lanza, MD***

1:05 Current Management of Epistaxis: Isn't there a better way? *Moderator: Elie Rebeiz, MD*
ER management: How I do it, *Steven Marks, MD*
Evaluation of new strategies for epistaxis, *K. Lee, MD*
Embolization, ligation or endoscopic sphenopalatine clip? *Eugenia M. Vining, MD*
HHT: Best evaluation and treatment, *Elie Rebeiz, MD*

Structure & Function,
Moderators: J. Jacobs, MD & P. Toffel, MD

1:40 Arterial ligation for pediatric epistaxis: developmental anatomy, *Glenn Isaacson, MD Philadelphia, PA*
1:47 Rhinoplasty from the Goldman/Cottle schools to the present: A survey of 7,447 personal cases, *Fred J. Stucker, MD Shreveport, LA*
1:54 Discussion & questions, *M. Fried, MD & P. Toffel, MD*
1:59 Age-related olfactory dysfunction – cellular and molecular characterization, *David B. Conley, MD, Alan M. Robinson, PhD, Michael J. Shinners, MD, Robert C. Kern, MD Chicago, IL*
2:06 Efficacy of endoscopic sinus surgery simulator (ES3) in teaching paranasal sinus anatomy and basic surgical skills to medical students, *Michelle Marrinan, MD, Zan Mra, MD, Todd Olson, Ph.D., Marvin Fried, MD, Bronx, NY*
2:13 Discussion & questions, *Karen Fong, MD*
2:18 Three dimensional computed tomographic analysis of frontal recess anatomy in cases of frontal sinusitis, *James N. Palmer, MD Frederick A. Kuhn, MD Ron E. Swain, MD Philadelphia, PA*
2:25 Frontal cells: a critical variant of the frontal recess *Tanya K. Meyer, M.D. Mehmet Kocak, M.D. Michelle M. Smith, M.D. Timothy Smith, M.D., M.P.H. Milwaukee, WI*
2:32 Atrophic rhinitis: A new treatment technique, *Michael Friedman, MD, Hani Ibrahim, MD, Chicago, IL*
2:39 Discussion & questions, *J. Jacobs, MD, S. Kountakis, MD*

2:45- 3:15pm BREAK with Exhibitors

Procedure Advances
Moderators: Marvin Fried, MD & Stilianos Kountakis, MD

3:15 Endoscopic maxillary sinus rehabilitation and drainage of mucoceles after failed Caldwell-Luc procedures, *James N. Palmer MD, Frederick A. Kuhn MD, Ron E. Swain MD Philadelphia PA*
3:22 Discussion & questions, *Stilianos Kountakis, MD*
3:25 A stepwise surgical correction of the crooked nose, *Fred J. Stucker, MD Shreveport, LA*
3:32 The use of cranial bone grafts for endoscopic repair of skull base defects, *William E Bolger, MD, Kevin McLaughlin, MD, Philadelphia, PA*
3:39 Discussion & questions, *Marvin Fried, MD, Paul Toffel, MD*

Neoplasia and Their Management
Moderators: William E. Bolger, MD & Carol Bradford, MD

3:44 Diagnosis and pathology of unilateral maxillary sinus opacification, *Brian A. Kaplan, MD, Stilianos E. Kountakis, MD, PhD Charlottesville, VA*
3:51 Endoscopic resection of inverted papilloma, *Roy R. Casiano, MD, Sarita Kasa, MD, Robson Capasso, MD, Miami, FL*
3:58 Discussion & questions, *Carol Bradford, MD*
4:03 Olfactory neuroblastoma: A 19-year experience, *Shane R. Smith, MD, Margaret Brandwein, MD, Andrew Iskander, BS, William Lawson, DDS, MD New York, NY*
4:10 Endoscopic treatment of fibrous dysplasia – The role of image-guidance, *Mark Samaha, MD, Ralph Metson, MD Boston, MA*
4:17 Discussion & questions, *William E. Bolger, MD*

Pathophysiology of Sinonasal Disease
Moderator B.J. Ferguson, MD & Bradley Marple, MD

4:22 Is empiric therapy sufficient for acute infections in chronic sinusitis patients? *Christopher Church, MD, Winston Vaughan, MD, Susan M. Poutanen, MD, MPH, Ellen Jo Baron, PhD, Palo Alto, CA*
4:29 Chronic sinonasal disease in patients with inflammatory bowel disease, *David T. Book, MD, Tim Smith, MD, MPH, Justin McNamar, BS, Robert Toohill, MD, Milwaukee, WI*
4:36 Discussion & questions, *Bradley Marple, MD*
4:41 Spontaneous nasal meningoencephaloceles and empty sella syndrome: a common pathophysiology? *Rodney J. Schlosser, MD, William E. Bolger, MD Philadelphia, PA*
4:48 Analysis of blood leukotriene levels in aspirin sensitive patients, *James M. Chow, MD, Maywood, IL*
4:55 Discussion & questions, *BJ Ferguson, MD*
5-5:30 Socioeconomic Issues Confronting Practicing Rhinologist & Business Meeting of ARS
Moderators: Paul Toffel, MD & Donald C. Lanza, MD

5/11/02 Combined AAOA & ARS Scientific Session
Richard Mabry, MD & Paul Toffel, MD

7:30-8:00 Registration

8:00 Opening Remarks, *Drs. Mabry & Toffel*
8:10 Allergic/ Non-Allergic Inflammation and Rhinosinusitis,
Moderator: Bruce Gordon, MD
Best allergy avoidance measures: do they work?
Bruce Gordon, MD
Food allergy and upper airway Inflammation: myth or science? *James Hadley, MD*
Aspirin sensitivity, leukotriene blockers, & rhinosinusitis
B.J. Ferguson, MD
Anti-IgE or anti-interlukin therapy: which and when?
John Krouse, MD

Outcomes in Chronic Rhinosinusitis
Moderators: Andrew Goldberg, MD & Thomas Tami, MD

8:45 A new staging system based on chronic sinusitis symptoms
Peter J. Catalano, MD, Eric Roffman BA Burlington, MA
8:52 Effect of asthma on sinus computed tomography grade and symptom scores in patients undergoing revision FESS
Dewayne T. Bradley, MD, Stilianos E. Kountakis, MD,PhD Charlottesville, VA
8:59 Discussion & questions, *Andrew N. Goldberg, MD*
9:04 Nasal osteocartilaginous necrosis in cocaine abusers: experience on 25 patients, *Matteo Trimarchi, MD, Piero Nicolai, MD, Davide Lombardi, MD, Ulrich Specks, MD, Brescia, Italy*
9:11 An association between acquired epiphora and the signs and symptoms of chronic rhinosinusitis: a prospective case-control study. *Haytham Kubba, Sivakumar Annamalai, N Ajith Kumar, M B Madkour, Glasgow, U.K.*
9:18 Discussion & questions, *Richard R. Orlandi, MD*
9:23 Cost Analysis in the Diagnosis of Chronic Rhinosinusitis
James A. Stankiewicz, MD, James M. Chow, MD, Maywood, Illinois
9:30 Symptomatic and endoscopic outcomes of culture-directed therapy in chronic sinusitis, *Winston Vaughan, MD, Christopher Church, MD, Susan Poutanen, MD, MPH, Ellen Jo Baron, PhD, Stanford, CA*
9:37 Discussion & Questions, *Thomas Tami, MD*

9:45-10:15 Break with Exhibitors

10:15 The effect of FloSeal on mucosal healing after ESS: A comparison to thrombin-soaked gelatin foam,
Rakesh K. Chandra, MD, David B. Conley, MD, Robert C. Kern, MD, Chicago, IL
10:22 Surgical management of contact point headaches
Fereidoon Behin, Babak Behin, Danniel Behin, Soly Baredes Jersey City, NJ
10:29 Discussion & questions, *Howard Levine, MD*

Fungus & Rhinosinusitis
Moderators: Peter H. Hwang, MD & David Sherris, MD

10:34 Clinical & histopathological differentiation between allergic fungal sinusitis & sinus fungus ball
M. Tarek Orfaly, MD, Brad Marple, MD, Dallas, TX
10:41 Safety of long-term dosing with Itraconazole (Sporanox) in patients with chronic refractory sinusitis,
Peter J. Catalano, MD, Eric Roffman, BA, Reuben Setliff III, MD, Sharuki Jalisi, MD, Burlington, MA
10:48 Discussion & questions, *Peter H. Hwang, MD*
10:53 Topical antifungal therapy for allergic fungal rhinosinusitis: A retrospective case series, *Frank G. Ondrey, MD, PhD, Michele B. St. Martin, MD Minneapolis, MN*
11:00 Role of fluconazole nasal spray in the treatment of allergic fungal sinusitis - a pilot study, *Vijay Anand, Albert Jen, Ashutosh Kacker, Clark Huang, NY, NY*
11:07 Discussion & questions, *David Sherris, MD*

11:12 **Controversies in Pediatric Rhinosinusitis**
Moderator: Rodney P Lusk, MD

TBA

11:55 Closing Remarks: *Donald Lanza, MD, & Bruce Gordon, MD*

5/10-5/11/02 Poster sessions
Moderator: Saurabah Shah, MD

Solitary fibrous tumor of ethmoid sinus,
Rajendra Bhayani, Aron Freidman, Yusuf Krespi, New York, NY

Nodular fasciitis of the nasal cavity,
Fred W. Lindsay, DO Michael A. Keefe, MD San Diego, CA

A preliminary report on the use of the laryngeal mask airway in endoscopic sinus surgery, *Barak J. Greenfield, MD Joseph B. Jacobs, MD New York, NY*

Management of the orbital floor in silent sinus syndrome,
Robert D. Thomas, Scott M. Graham, Keith D. Carter, Jeffrey A. Nerad Iowa City, IA

ARS/AAOA Program Committee
Chairs: Bruce Gordon, MD & Donald C. Lanza, MD
Paul Toffel, MD
James Hadley MD
Marvin P. Fried, MD

Abstract Committee
Martin J. Citardi, MD
Ryan P. Gallivan, MD
James Hadley, MD
Peter H. Hwang, MD
Bradley Marple, MD
Saurabah Shah, MD

POINT...

Chronic Rhinosinusitis: The War of the Immune System Against Fungi

Jens Ponikau, MD

Chronic rhinosinusitis (CRS) is a confusing disease for the practicing Otorhinolaryngologist. It usually presents histologically as an eosinophilic inflammation that is complicated by periods of acute exacerbation. These acute exacerbations are presumed to be of bacterial origin. Bacterial infections trigger a neutrophilic inflammation. The eosinophilic inflammation seen in chronic sinusitis is not likely to be caused by bacteria. Eosinophils are understood to play a role in the host defense against larger, non-phagocytosable organisms such as parasites.

The original aim of our research on chronic sinusitis was to prospectively determine the incidence of Allergic Fungal Sinusitis (AFS). Through novel culture, histologic and antigen detecting methods we were able to demonstrate the presence of fungi in every patient with chronic rhinosinusitis (n=46), and in every healthy control person without the disease(n=14).

By studying the tissue and mucin from chronic sinusitis sufferers more closely we observed that the eosinophils were present nearly entirely intact in the tissue. Further the eosinophils migrated into the mucin, formed clusters around fungi and degranulated. Since this was observed in the majority (96%) of consecutive surgical CRS cases (n=101), the questions was raised whether the eosinophils play an immunologic defensive role against those fungi in CRS patients.

Immunologic testing further showed that the chronic sinusitis patients peripheral blood T-lymphocytes, when presented with certain fungal antigens, reacted with the production of the cytokines which recruit (IL-13) and activate (IL-5) eosinophils (n=18). Lymphocytes from healthy controls (n=15) did not demonstrate this immune response. We conclude that the T-lymphocytes in chronic sinusitis patients recruit eosinophils in response to fungal antigens, while T-lymphocytes in normal people do not. This underlying reaction to fungi occurred independent of IgE mediated allergy. Thus, the immunologic response is not IgE mediated allergy, and the term "allergic" in AFS is incorrect. As a consequence, the term Eosinophilic Fungal Rhinosinusitis (EFRS) was introduced.

Our working hypothesis of the immunologic mechanism of EFRS, based on the research findings in the laboratory, is that eosinophils are recruited as a defense to fight of fungi in the nose, where healthy controls are lacking this specific immunity. The eosinophils migrate through the nasal tissue and into the mucin of the nose. There the cells cluster around the fungi in a similar fashion as they group around parasites. The eosinophils destroy the fungal organisms through the release of their toxic proteins. As a result, the mucin contains eosinophilic Major Basic Protein (MBP) in a quantity large enough to damage the nasal mucosa. This mucosal destruction allows residential nasal bacteria to secondarily invade the patient's mucosa and cause an acute exacerbation of chronic sinusitis.

Currently we are developing new treatments protocols based on our understanding of the etiology of CRS. Intranasal antifungals have been demonstrated to be safe and appear to demonstrate efficacy in open trials and are now tested in a double blinded, placebo-controlled fashion.

It should be mentioned that this non-invasive disease is a hypersensitivity to fungi, and not a fungal infection. EFRS needs to be differentiated from other forms of fungal sinusitis, such as fungus balls (non-invasive) and invasive fungal sinusitis (acute fulminant or chronic form).

A most striking finding for us is the fact that the T-lymphocytes of chronic sinusitis patients are sensitized in the peripheral blood and recruit and activate eosinophils when they sense a fungal antigen. This finding indicates that CRS is a systemic hypersensitive disease. Further research into the pathophysiology of CRS along this new paradigm will hopefully lead us to new treatments and ultimately better care for our patients.

Legends

Figure 1:
Numerous eosinophils cluster around a fungal hyphae in cross section (arrow) in the mucin of CRS patient (Transmission Electron Microscopy x 7125)

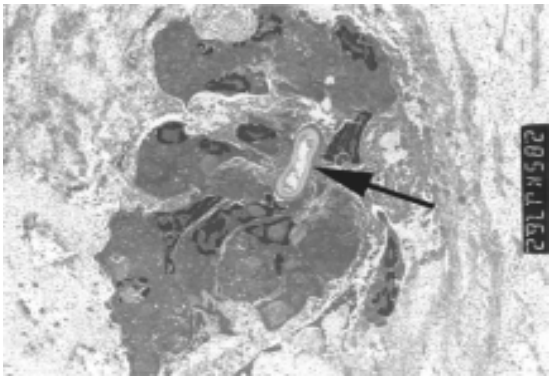
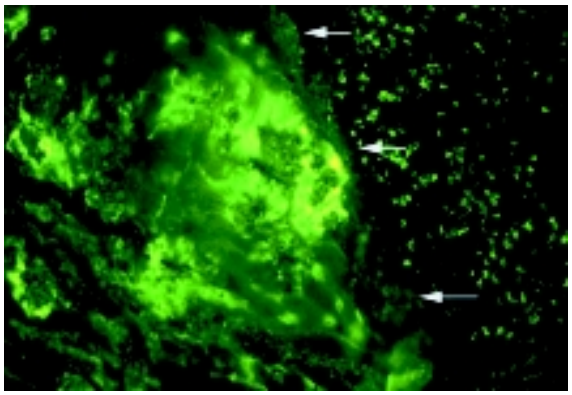


Figure 2:
Immuno-fluorescence staining for Major Basic Protein (MBP) demonstrates striking release of toxic protein in the mucus of CRS patient. Note the intact eosinophils in the tissue (right side of image) and the eroded epithelium (arrows). (x200)



...of View

The Role of Fungus in Chronic Rhinosinusitis: A Matter of Perspective?

Bradley Marple, MD

Although fungi have long been recognized as potential allergens, the role of fungi as non-invasive stimulants of mucosal inflammation emerged with the recognition of allergic fungal rhinosinusitis (AFS). AFS was first recognized in the late 1970's by a pulmonologist who noted its distinct clinical and immunologic similarity to Allergic Bronchopulmonary Aspergillosis (ABPA). As general awareness of AFS continued to increase, corroborative literature followed describing its clinical appearance, immunologic characteristics, incidence, geographic distribution, and response (or lack thereof) to various forms of therapy. Despite the diversity of the studies, all share one important feature: patients selected for study were identified based upon clinical manifestations of their disease (Figure 1). Important in this body of literature are the observations of Bent and Kuhn, who compared 15 patients with AFS to a control group of patients with chronic rhinosinusitis. Those patients with AFS uniformly demonstrated 5 characteristics: gross production of eosinophilic mucin containing non-invasive fungal hyphae, nasal polyposis, characteristic radiographic findings, immunocompetence, and allergy.

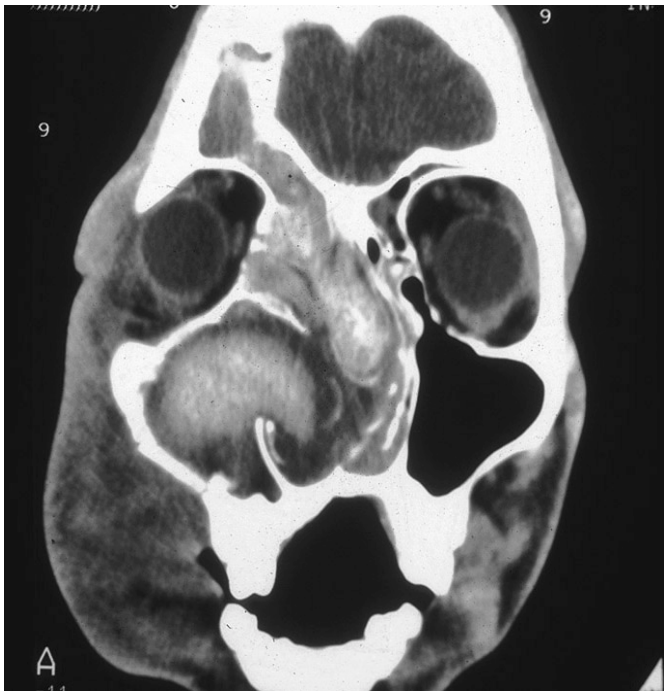


Figure 1. Right-sided AFS demonstrating typical expansion of involved sinuses.

In 1999 a twist was added to the saga of fungal inflammation following a study performed at the Mayo clinic, which hypothesized a broader role for fungi in the pathogenesis of chronic rhinosinusitis. Using an exquisitely sensitive culture technique, 93% of 101 consecutive patients who underwent ESS for chronic rhinosinusitis demonstrated positive fungal cultures in combination with the histologic presence of eosinophilic inflammation. In comparison, 100% of a small control group also produced positive fungal cultures from nasal mucous. Using this combination of histologically identified eosinophilic inflammation and positive fungal cultures as a less stringent set of diagnostic criteria for AFS, it was proposed that virtually all forms of chronic rhinosinusitis are related in some fashion to non-allergic eosinophilic inflammation caused by fungal exposure. Moreover, when the study population was further evaluated, allergy to fungi failed to correlate with their definition of AFS. It was therefore suggested that the term AFS be replaced with EFRS (Eosinophilic Fungal Rhinosinusitis).

At initial glance the differences between the findings of the Mayo clinic and those supported by already published data appear dramatic. The differences may, however, simply represent a difference of perspective. In the case of the large volume of existing peer-reviewed data concerning AFS, authors have identified patients based upon a recognized set of clinical criteria. When this is done, AFS reliably emerges as a distinct clinical entity that differs from chronic rhinosinusitis in terms of its immunologic, clinical and histologic features. In contrast, it logically follows that reliance upon the combination of an extremely sensitive fungal culture technique and the common histologic presence of eosinophilic inflammation as diagnostic criteria will result in the convergence of the majority of chronic inflammatory sinonasal diseases into a single homogeneous group. Given the vast differences in patient selection, at the present time it appears that no comparisons between AFS and EFRS can be made.

Two questions appear to emerge from these recent developments. First, could a separate, previously unrecognized form of non-allergic fungal eosinophilic inflammation exist? A supportive follow-up study by Kita has demonstrated unique Th1 cytokine stimulation when T-cells were cultured in the presence of *Alternaria sp*. Such data offer a compelling argument supportive of just such a process. At present, however, the concept warrants independent investigation. Secondly, does AFS exist as a distinct disease entity separate from other forms of chronic rhinosinusitis? This question depends upon how we select our patients. If patients are selected based upon clinical, radiographic and histologic manifestations of the disease, then AFS appears to exist as a distinct clinical entity. In actuality, fungi may incite allergic and non-allergic forms of inflammation, ultimately leading to different disease processes. Certainly, more study is warranted.

American Rhinologic Society
Marvin P. Fried, MD, FACS
Department of Otolaryngology
Albert Einstein College of Medicine
Morris Park Avenue
Bronx, NY 10467-2490

Socioeconomic Update

Joe Jacobs, Chairman of Socioeconomic Committee

Your socioeconomic committee continues to actively and agressively defend denial of various CPT codes and their reimbursement by Medicare, Blue Cross/Blue Shield and various third party carriers. We continue to obtain legal advice through the firm of Hogan and Hartson in Washington, D.C. Ms. Laura Loeb and Ms. Beth Roberts provide us with legal documentation that serves to substantiate our initiatives. These endeavors are costly and therefore a substantial portion of the Society's funds obtained from your dues is utilized to cover these costs. However, the return to our membership justifies this expense.

We continue to defend reimbursement for 31237 and 61795. The web site at www.american-rhinologic.org contains information that our membership can employ to substantiate any grievances with carriers. In addition, please feel free to contact me directly at joseph.jacobs@med.nyu.edu or by phone 212-263-7398.

The socioeconomic committee consists of Drs. Stephen Marks, Brent Senior, Winston Vaughn and Dan Becker.

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Editorial Office
University of North Carolina, CB 7070, Chapel Hill, NC 27599-7070
Editor: Brent A. Senior, MD, FACS
Editorial Assistants: William Heeden
Kari Corker
FAX: 919.966.7941
Email: newsletter@american-rhinologic.org