

Editorial

The Rationale for Multidisciplinary Management of Chronic Rhinosinusitis with Nasal Polyposis

Devyani Lal, MD^a, Larry Borish, MD^b, Kara Y. Detwiler, MD^c, Stacey T. Gray, MD^d, Shyam Joshi, MD^e, Robert C. Kern, MD^f, Tanya M. Laidlaw, MD^g, Michael J. Marino, MD^a, Spencer C. Payne, MD^h, Anju T. Peters, MDⁱ, Zachary M. Soler, MD^j, and Matthew A. Rank, MD^k *Phoenix and Scottsdale, Ariz; Charlottesville, Va; Portland, Ore; Boston and Chestnut Hill, Mass; Chicago, Ill; and Charleston, SC*

Chronic rhinosinusitis with nasal polyposis (CRSwNP) is an upper airway inflammatory disease often associated with lower airway diseases.^{1,2} No “cure” is available. Both surgical and medical therapies are used for disease control, but the disease is commonly refractory to such treatment.^{1,2} The authors believe that subjects with CRSwNP, especially those who have severe nasal polyposis or early recurrence after surgery, multiple surgeries, or who receive repeated courses of a systemic glucocorticosteroid, are most likely to benefit from a multidisciplinary approach by allergists/immunologists and otolaryngologists. Some subjects with CRSwNP also have asthma with aspirin-exacerbated respiratory disease (AERD), allergic or nonallergic rhinitis, eosinophilic granulomatosis with polyangiitis, allergic fungal rhinosinusitis, or primary immunodeficiency diseases. Pathologists also can assist by providing a detailed histopathologic analysis important to help subtype sinus disease tissue by determining dominant cellular infiltrate and mucin eosinophil content, both of which can help direct postoperative and long-term care.^{3,4}

Areas for cooperation among specialists include the following:

1. Guideline-based confirmation of CRSwNP diagnosed by nasal endoscopy,⁵
2. Subtyping CRSwNP,^{1,2}
3. Identification of coexisting allergy and upper and lower airway diseases, and
4. Combining surgical and nonsurgical therapeutic strategies to optimize outcomes.

Allergist/immunologists can diagnose and assist in the management of the disease and help identify and treat comorbid conditions. Although surgery results in removal of nasal polyps, long-term postoperative medical care is critical to prevent recurrence by accurately identifying and managing more complicated patients.

Otolaryngologists can help optimize management by first using nasal endoscopy to accurately diagnose the disease, assess its severity and subtype, and identify comorbid upper airway conditions. Second, they can perform biopsies and endoscopic-directed cultures and help rule out mucociliary disease. Third, they can perform a detailed evaluation of the computed tomography scan to identify reasons for suboptimal outcomes. Many subjects with CRSwNP have excellent long-term results from appropriate surgery performed by experts who specialize in this disease. Surgery is effective to remove nasal polyps and allergic mucin, repair scarring, and promote optimal mucous drainage. It should include an ethmoidectomy, resulting in a clean lamina papyracea and skull base and wide ethmoidal corridors. Surgery of frontal, sphenoid, and maxillary sinuses should result in large openings that incorporate the natural ostia. This approach facilitates the meticulous removal of diseased tissue and also enables delivery of postoperative topical therapy.^{6,7} Procedures that are limited to “targeted ostiomeatal surgery” are inadequate for CRSwNP because this disease is usually characterized by pan-sinus eosinophilic inflammation, not just ostiomeatal obstruction.⁸ The use of topical high-dose glucocorticoids, delivered by sinus irrigation, is often an effective

^aDepartment of Otolaryngology-Head and Neck Surgery, Mayo Clinic, Phoenix, Ariz

^bDepartment of Medicine and Carter Immunology Center, University of Virginia, Charlottesville, Va

^cDivision of Rhinology and Sinus Surgery, Oregon Health Sciences University, Portland, Ore

^dDepartment of Otolaryngology-Head and Neck Surgery, Harvard Medical School, Boston, Mass

^eSection of Allergy and Clinical Immunology, Oregon Health Sciences University, Portland, Ore

^fDepartment of Otolaryngology-Head and Neck Surgery, Northwestern University, Chicago, Ill

^gDivision of Allergy and Immunology, Brigham and Women's Hospital, Chestnut Hill, Mass

^hDepartment of Otolaryngology-Head & Neck Surgery, University of Virginia, Charlottesville, Va

ⁱDivision of Allergy and Immunology, Northwestern University, Chicago, Ill

^jDivision of Rhinology and Sinus Surgery, Medical University of South Carolina, Charleston, SC

^kDivision of Allergy, Asthma, and Clinical Immunology, Mayo Clinic, Scottsdale, AZ

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Corresponding author: Matthew A. Rank, MD, 13400 E Shea Blvd, Scottsdale, AZ 85259. E-mail: Rank.matthew@mayo.edu.

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postoperative treatment.¹ Wide surgical ostioplasties and ethmoidal corridors may enable better access for exhalation delivery with fluticasone^{9,10} and a mometasone-eluting device for postsurgical recurrence of nasal polyps.¹¹

Subjects with AERD usually have nasal polyposis and difficult-to-treat asthma. Aspirin desensitization reduces nasal polyp size, decreases the risk of recurrence, and improves both upper and lower airway symptoms, reducing the need for both oral and inhalational glucocorticosteroids.¹² Antecedent surgical treatment of nasal polyposis may enhance aspirin treatment.¹³ Likewise, aspirin desensitization and maintenance of high-dose aspirin may be safer and more successful after sinus surgery and decrease cost.¹⁴⁻¹⁶

Dupilumab was approved to treat CRSwNP in 2019.¹⁷ It provides a novel therapeutic tool to treat patients with CRSwNP, especially with comorbid asthma or AERD.¹⁸ Prolonged use of this drug may be necessary and will necessitate continuous ongoing monitoring by both specialists. Other biologics (omalizumab, reslizumab, mepolizumab, and benralizumab) are currently under investigation to treat this disease.¹⁹ The cost-effectiveness of these therapies is yet to be determined. Selecting patients for such biologics will sometimes necessitate close collaboration among specialists.

In summary, the authors recommend collaboration between otolaryngologists and allergists/immunologists to appropriately manage patients with CRSwNP. A patient-centered approach is necessary to properly diagnose and treat this disease.

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